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Proceedings
of the
CONFERENCE ON MARKETS
for WESTERN FARM
PRODUCTS

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As arranged by
THE GOVERNMENT OF MANITOBA
and held in
WINNIPEG, DECEMBER 12TH TO 15TH INCLUSIVE

1938

HONOURABLE JOHN BRACKEN,
Premier of Manitoba.

SIR,

I have the honour to submit herewith a report of the proceedings of the Conference on Markets for Western Farm Products arranged by the Government of Manitoba, and held in the City of Winnipeg, from December 12 to 15 inclusive, 1938.

Registrations at the Conference numbered over four hundred, many of those attending being present in a representative capacity.

An index of the proceedings is found in the final pages of this report.

I have the honour to be,

Sir,

Your obedient servant,

C. B. DAVIDSON,

Secretary of the Conference.

Winnipeg, Manitoba,
January 23, 1939.

INTRODUCTORY REMARKS

by

HON. JOHN BRACKEN
PREMIER OF MANITOBA

Monday, December 12, 1938
10.00 a.m.

LADIES AND GENTLEMEN:

You have been invited here this week to discuss with us a question not only of pressing importance to Manitoba and western Canada, but of far-reaching importance to the people of Canada as a whole.

At the outset of the conference I wish to extend a very cordial welcome to the many delegates and visitors here assembled, and to thank each and all of you and the organizations you represent, for the generous response that has been shown to our invitation.

As you know, the purpose of this conference is to give consideration to a problem of major concern to that large section of Canada lying between the eastern border of Manitoba and the Rocky Mountains—a vast agricultural empire extending 800 miles to the westward from this point and in some parts to more than 300 miles north from the American boundary. I refer to the Canadian Prairie area and the park belt lying to the north of it.

Since 1930 this area, once spoken of and looked upon as the granary of the Empire, has suffered from a combination of two major catastrophes, one climatic and the other economic; one a prolonged period of drought, the other unprecedentedly low prices for our agricultural products, the first affecting a large portion of the prairies, the latter affecting the area as a whole.

The programme of the conference has been worked out with considerable care. It is aimed to bring before you, and through you to the people of Canada, a picture of the problem that now faces a large section of the nation in which lives one-fifth of its population. It is the problem of how to face the nationalistic self-sufficiency policies of the important wheat importing countries of the world, policies which reduce the demand for our products and drive down prices to depths that will force wholesale bankruptcy if nothing is done to off-set them.

The question is one which challenges not only the wisdom of some of our Canadian federal policies, but challenges also the measure of the statesmanship of Canada's public men and the capacity of her technical advisers and business leaders to cope with it. In brief, we are in a new world where the economic policies of some countries, which have hitherto been amongst the principal importing countries of the world, are in direct and exclusive conflict with the policies of the exporting countries.

Arising out of this situation two questions present themselves to us in Canada. What are the fundamental facts of the situation that is now brought so vividly to our attention? And what will Canada do to meet the challenge which now lies on her doorstep? The purpose of this conference is to try to answer the first of these for the information and guidance of the Canadian people. Canada must decide how it will face the problem that has thus been brought home to us; and it is well that

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she should do so only in the light of the best information that can be shed upon it; and in the light of the nation's decision the Prairie provinces and their 2½ million people must then determine what their domestic plans and policies will be.

What are the fundamental facts of the present situation? We have sought to bring before you at this conference the most unprejudiced and at the same time, the most enlightened views on this subject; and we have sought to have gathered here a group of men representative of the agricultural, industrial, business and financial life of Canada. Each of you will place your own interpretation upon the facts presented, and will reach your own decisions with respect to the best manner of meeting the situation that is found to exist.

THE WHEAT PROBLEM

While the problem will be exhaustively dealt with during the next four days, it has been thought appropriate that I should, at the beginning, set out in brief outline the fundamentals of the situation that, in some of its aspects, has been so forcibly brought to our attention in the last eight months.

(1) The importing nations of the world are buying less wheat than they formerly did. (2) The exporting nations of the world are producing as much or more than ever before. (3) The three Prairie provinces are producing, as they have done for the last twenty years, three times the needs of all Canada for wheat. (4) The combination of reduced purchasing by importing countries and maintained or increased production by exporting countries has brought about an unprecedented decline in the price of wheat. (5) The result is that the 1933 crop of the Prairie provinces, which was more than twice as large as the 1937 crop, would bring, on the basis of current market prices, 30 million dollars less to prairie farmers than the 1937 crop.

With this prospect before western Canada, last July, the Canadian government guaranteed a price of 80 cents per bushel for No. 1 Northern wheat at Fort William. In subsequent weeks it became apparent that the Dominion would probably lose from 30 to 50 million dollars on its guarantee through having to sell the crop at a lower figure than it was paying for it.

In view of this heavy charge upon the federal treasury, objections began to be voiced by public men and others in various parts of eastern Canada. At once the magnitude and the national significance of the problem is evidenced.

With all this background before us—lost markets, maintained production, unprecedentedly low prices and government guarantees, and fixed prices—it was felt that in the interest of the Canadian nation, as well as in the interest of western Canada, an attempt should be made to acquaint the Canadian people with the situation that exists, the reasons for it, and the implications of any suggested remedies or lack of remedies.

I said a moment ago the three Prairie provinces are producing three times the need of all Canada for wheat. That is, of course, an approximation. It has often far exceeded that figure and frequently also has been less. An average would be something more than 360 million bushels per year, of which more than two-thirds would be available for export.

As a general proposition, however, it may be said that we are dependent upon outside nations for a market for two-thirds or more of our production, or say 250 million bushels per year. Our productive equipment on the farms of western Canada is geared to that scale of production. Our capital investment in railways, in grain-handling facilities, in water transportation and port development, has been made on the basis of normal grain production on the prairies. Markets must be found for that amount of exports if farmers are to meet their obligations and the industry remain at the present extent of development. 290,000 farmers will be left out on a limb if for any reason the markets we once had remain permanently lost.

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I said a moment ago that the importing nations of the world are buying less. The fact is they are bonusing their producers to grow more, in some cases assuring them of more than \$2.00 per bushel. The more they grow at home the less they need to buy; and the less they buy, the lower our price drops. In most cases they have erected very high tariff barriers and other obstacles to the purchase of our wheat. Prior to 10 years ago they imported an average of some 760 millions per year, during the last five years they have bought from outside their borders an average of only 540 millions per year.

I said also that the exporting nations are producing as much as ever. The fact is the world as a whole produced more wheat this year than ever before in its history—a total crop, outside of China and Russia, of four billion three hundred millions—500 million bushels more than last year and nearly 300 millions more than the big crop of 1928.

I said also that the combination of reduced purchases by importing countries, and maintained or increased production by exporting countries, has resulted as it must always result in low prices. We experienced that situation six years ago and again this year. Six years ago the price reached the lowest point on record in the last 400 years. The price at the present time is not only less than one-half of last year's price per bushel, but it is less than the average of the depression years. Yet in these depression years—the seven years following 1930—the wheat growers of western Canada received 750 million dollars less for their wheat than if they had received the same average price as in the seven years prior to 1930.

THE OUTLOOK

The question now facing the western provinces is "Do the next seven years hold a similar prospect for us?" If they do, a number of other questions will present themselves to different sections of the Canadian economy. What will be the consequences to western agriculture of 60-cent wheat at Fort William, which means about 40 cents for the average grade in the centre of the wheat area? What will be the effect upon our railways and other business institutions if farmers on a large scale are forced out of cereal production? What will be the effect on the Dominion Government relief expenditures if widespread bankruptcy forces large numbers of people to abandon farming? What will be the effect on business in our cities and on the sale of manufactured products by eastern interests, if our farmers get 750 million dollars less for their wheat than if they received a normal price, and as a result have that much less to spend? What will be the prospect of meeting the interest obligations and maturities on the 700 million dollars owing by the three Prairie provinces and the 800 or more municipalities in western Canada? What will be the effect on Canadian public finance if there should be widespread default or suspension of interest payments on a large part of these public debts?

At this point I think, perhaps, it is well that the common misconception with regard to the guaranteed minimum price be dispelled. I think it is fair to say that in parts of Canada outside the Prairie provinces, it is commonly believed that the farmers in the prairie provinces receive 80 cents per bushel for their wheat. This is very far from the truth. The guarantee given by the Dominion Government is for the second highest grade the country produces, and it is the price at Fort William, which is not in the prairie provinces at all, and which is in fact 400 miles away from the closest wheat fields and some 1,200 miles away from the furthest wheat fields. The fact is that freight costs, handling costs and grade considered, the average price received by western farmers is less than 60 cents per bushel and in many instances, very much less than 60 cents a bushel.

The question of whether the subsidy to the wheat industry of the West, in such proportions as the subsidy being paid this year, is in the national interest, is a matter which will no doubt be reviewed by the Canadian Parliament. Many factors will have to be weighed in arriving at a proper appraisal of the situation. Against the subsidy which is being paid by the Dominion Government this year,

must be weighed the conditions which would have prevailed in western Canada in the lack of a subsidy; must be weighed the effort which the nation has made to secure markets for western grain; must be weighed the disabilities under which the prairie provinces suffer as a result of our position within the Dominion as a whole. The West has a right to expect that if the policy being followed this year is subject to criticism in any quarter in Canada, that criticism will be intelligent and be based upon all the facts in the situation.

A COMPLEX PROBLEM

The wheat problem which we face is a difficult one. One of the difficulties is that there are so many unpredictable factors in both the domestic and international wheat situation at any given point of time. We do not know what developments may occur in the near or distant future in respect to markets abroad. We do not know what production is going to be in this country or in other countries. We do not know the direction in which governmental intervention of one kind or another will move. All these things are uncertain and yet in spite of these obvious difficulties, we must take cognizance of the situation.

One outstanding fact emerges from all the factors which play upon the world wheat situation at the present time. That important fact is that on July 31, 1939, it is estimated that the world carry-over of wheat will be well over 1,000 million bushels, approximating the surplus which existed during the worst part of the depression in 1932 and 1933. With this supply of wheat on hand out of the present crop, the trend of production in 1939 will not be as important a factor in the situation this coming year as would otherwise be the case.

The combination of a large surplus and lessened demand—these two factors spell nothing else but low prices for Canada and other exporting nations. How long will low prices continue? As long as supply exceeds demand by such large dimensions. How long will that be? Your guess is as good as mine.

I have only spoken of the problem as it affects wheat. But what has happened to wheat has happened likewise to other cereals. It may not be generally known in eastern Canada that oats have been selling on the farms of western Canada at less than 14 cents per bushel and barley for but little more. And what has happened to cereal grains may happen to any other of our agricultural products if in seeking to solve the cereal problem we create the same surplus problem in other products, such as cattle, hogs, poultry, butter, cheese, honey, etc.

What is the remedy? It is very clear to us at least that the only sound remedy is a more vigorous approach to the question of restoring international trade by removing trade barriers and making it possible for nations which are willing to buy our wheat to pay for it with their own products.

It seems very clear to us that the Canadian nation should seek that remedy more aggressively than it has ever done before.

This conference has not been called with the expectation it would render a hasty decision or any decision on this question. You were asked here to consider the problem in all its aspects, to consider the various alternatives that may be suggested, either now or later, with all the implications that would follow the application of any of them, but I suggest there should be no delay in the determination of a Canadian policy. I suggest that an excuse for waiting for something to happen should not be tolerated. The situation is too serious to justify inaction once it is thoroughly understood.

THE NATION MUST DECIDE

What action should be taken is for the nation to decide in its own interest, and not in the interest of western Canada alone. But it is the duty of those of us closest to the problem to assist the nation in arriving at a decision. That having been done the responsibility for the decision lies with the nation; but the respon-

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sibility for helping to carry it out rests largely with us who are directly affected. Let us hope the decision, whatever it is, will be a wise one, and let us determine that we shall do our part to help meet it in ways that are sane and rational.

In approaching that future let us hope that neither the Canadian Governments nor the Canadian people will forget that if we are facing economic stress and strain in the Prairie provinces at this time, it is not because of any inherent lack of strength in our basic position. The West is capable of producing for Canada and for the world, large quantities of primary products—wheat, other cereals, flax, livestock, dairy products, oil, coal, fish and minerals. With the natural resources which are ours, our 2½ million people are capable of large scale production of commodities which are basic in modern civilization.

Let us hope it will be remembered that in the course of producing these commodities the people of the prairie provinces can be large consumers of Canadian-made goods, goods that will be necessary to support their large scale production and maintain their 500,000 homes. Both as important producers and important consumers, the Prairie provinces have possibilities of continuing to be a great natural asset to Canada. They provide opportunity for an even greater trade than has been with other parts of Canada and with other countries. This inherent economic strength in the Prairie provinces should no longer fail to be recognized in any appraisal of our position in the Canadian economy. The present problem should therefore not be approached in a defeatist attitude. If a right solution of this problem is arrived at there will be much wealth and much greater opportunity gained for Canada—and not only something to be saved for the prairies.

For obvious reasons we are at the moment rendered unable to transform a strong basic position into a condition making for the economic welfare of our people. I shall not labor further the point as to why our economic strength is being rendered ineffective, nor shall I take further time to point out the reasons why we are now living and, for some time past, have been living under depressed conditions in the prairie provinces. Are not the major difficulties international? If so, how may we approach international problems? Do not some of these difficulties arise within Canada itself? If so, how may we approach and solve these national domestic difficulties?

What we need in Canada is a clear conception of our problems, our opportunities and the conflict in our national policies; we need a greater measure of team play and less petty criticism in the approach to our fundamental problems; we need a re-statement of national objectives that will swing the full force of the Canadian people behind a programme in which all can have confidence because it has sprung from the combined wisdom of the best brains of all parts of the nation.

Our programme is very comprehensive; in fact, we have had to leave out some parts of it, and perhaps it is a little too full yet. Consequently I am going to ask the speakers to be brief and to the point as much as possible, particularly those who take part in the discussions, because we want to make the best possible use of the next four days. I think we are particularly favoured in the type of men who have volunteered to come before us to present their views on some phases of this programme.

We are now to hear from Dr. W. A. Mackintosh, Professor of Political Economy, Queen's University. Dr. Mackintosh in recent years has given special attention to Canadian economic problems, problems which particularly bear upon the western Canadian economy. It is only a short time since he made a study of Canadian frontier settlements, and during the past year for the Royal Commission on Dominion-Provincial relations he has prepared one of the best studies that has been presented to that Commission, a study of the economic background of Dominion-Provincial relations. Today we are to hear from Dr. Mackintosh on the subject of "Western Agriculture in the Canadian Economy." Dr. Mackintosh.

WESTERN AGRICULTURE IN THE CANADIAN ECONOMY

by

DR. W. A. MACKINTOSH

PROFESSOR OF POLITICAL ECONOMY, QUEEN'S UNIVERSITY

MR. PREMIER, LADIES AND GENTLEMEN:

I am very grateful for this opportunity to speak to this conference, and for the honour of the invitation to come here today. I have been asked to make a contribution to this wide programme, including so many of the problems which are of concern to the Prairie provinces, a contribution which is very definite. It is my task to present to you from a national point of view an explanation of the place which the agriculture of the prairie provinces has had in the expansion of this Dominion, and to indicate something of the place which it now has in the economic organization and working of this country; and also to point out some of the peculiarities of that position. What I have to say is necessarily largely familiar to you. There can be nothing novel in assigning to the expansion of western Canada a central and indeed a critical position in the story of the growth of this Dominion. Perhaps the most I can hope to do is to present those rather familiar facts in a logical, and perhaps enlightening pattern, and further to take a longer view than often is taken in looking at the problems of different parts of this country.

In the course of history people do many things without deliberate decision, or without any full knowledge of the implications of what they are doing. It has been said that when Christopher Columbus set out he did not know where he was going; that when he reached America he did not know where he was; and when he got back to Europe he did not know where he had been; yet, nevertheless he discovered America. The development of western Canada was not an episode of that kind in the history of this country or in the history of the world; it was something which was very deliberately undertaken after long discussion. It was a matter of a deliberate and carefully planned decision, and was a part, in a broader sense, of the whole scheme of Confederation and national development, and it gave to the narrow political plan of Confederation a wider and broader significance.

If you will forgive me I would like to speak very briefly of some facts of the Confederation period. It may very rightly seem to you that this has little to do with the price of wheat in Winnipeg, and yet, I think these facts will shed light on the position of the West in the development of this country. When the British North American colonies decided to enter on the scheme of Confederation they had reached the end of a phase in their development. They had grappled during the 1850's, particularly with a great new instrument of economic development, the railway, an instrument which was of peculiar importance to continents like North America whose resources lay in the interior and remote from the sea.

The provinces of Canada had engaged in a great project, the project of constructing the Grand Trunk Railway, which was a continuation of an earlier policy; and the strategy of that policy was to draw the traffic and trade of the expanding Mississippi Valley out through the St. Lawrence to the sea. That little colony had spent enormous sums of money and made stupendous efforts to link the Mississippi Valley which is now centred in Chicago, with the St. Lawrence route of commerce. By 1860 it was apparent that the experiment, first with canals, and then with the Grand Trunk Railway, had in large measure failed. New York was the outlet for the Mississippi Valley and not the St. Lawrence.

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For a while that colony had experienced prosperity as had the Maritime colonies because the Reciprocity Treaty with the United States had admitted them to a market which was a booming market, a market which was booming under the stimulus of railway construction and rapidly moving settlement into the Mississippi Valley. In that period the present area of Ontario even had its wheat area, so that an Ontario agriculturist has spoken of that era as the time when wheat was king. By the 1860's it was found that that era was closing. The railway experiment had in a measure failed. The United States market was about to be closed by the abrogation of the Reciprocity Treaty.

There existed in the Province of Canada, Ontario and Quebec, no more agricultural land for new settlement. The movement of settlement went across the Detroit River and into the upper Mississippi Valley, and Canadians streamed into Illinois, Michigan, Wisconsin and the other states of the Middle West. It may be necessary to impress an eastern audience, but I think not a western audience, with the tremendous significance of a growing agricultural area, moving settlement, rising land values and increasing construction. Those are the moving dynamic forces which in a pioneer country make the difference between prosperity and depression, and the rise in land values, the movement of settlement, and the great spread of construction of railway had crossed out of Canada so to speak into the United States. In the effort that had been made in that pre-Confederation period to build up the colony, to construct railways and canals that would make a working economic unit out of that colony, and also out of the Maritime colonies, there had been accumulated debts which in the terms of population of that day were enormous. And from an economic point of view, leaving political questions aside, those colonies turned to Confederation because they were in serious difficulties, because they saw no favourable outlook ahead, and because by pooling their resources there was some possibility of carrying their debts and of being able to borrow the funds which they saw it was necessary to borrow if larger projects were still to be carried out.

Confederation from the point of view of national economic development meant two things, union and definite expansion. Union meant a co-ordinating policy directed by a single government and not by the governments of four separate colonies; it meant financial strength and ability to enter the London money market, which was the source of capital necessary for the development of any new country; it meant a credit-worthy government.

Expansion meant principally one thing, the settlement of the prairie regions of western Canada; it meant the development of a hinterland as a source of trade for the St. Lawrence Valley and for the older colonies which had failed to find that hinterland and that source of trade in the territory of the United States. The Hudson's Bay purchase and the decision to settle western Canada as an agricultural community was an essential part of that particular plan which turned development toward the West and made it the focus of national expansion. That acquisition of western Canada from the Hudson's Bay Company was a fact of first importance for the new Dominion Government. It was important not only because it gave a new field of investment and new source of trade, a new field of settlement, but it gave a very special position to the new Dominion Government itself. "In truth," writes Chester Martin, "the transfer of 1870 marked a revolution in the very nature of the Canadian Federation. It transformed the original Dominion from a federation of equal provinces each vested with its own lands, into a veritable empire in its own right, with a domain of public lands five times the area of the original Dominion, under direct Federal administration." These lands were to be administered by the Dominion Government for the purposes of the Dominion. Those national purposes were the construction of railways and the extension of settlement. Lands and the proceeds of lands and the method of administering them were to be turned towards the formation of settlement and the construction of railways. Those were looked upon not as western purposes, but as national purposes, the purposes of the Dominion as a whole. To a considerable degree it was this great project of national development in which western Canada was to be the centre which accounted for the strength and energy of the Dominion

Governments of those days. This great task was one reason for the Fathers of the Confederation setting up what they conceived to be a strong central government. "We thereby," said Sir John MacDonald, "strengthened the central parliament and made the Confederation one people and one government, instead of five peoples and five governments, with merely a point of authority connecting us." That project of development raised high hopes. It gave to the new Dominion potential opportunities which before Confederation and before the Hudson's Bay purchase had not existed. It was expected, and the expectation was deliberately voiced that from western Canada when it had been settled, would flow a trade, and to it would flow investment, which would not only develop that part of the country, but would extend the development of eastern Canada and of all the provinces. I might emphasize that, perhaps, by quoting from a budget speech of Samuel Leonard Tilley in 1873. In proposing very ambitious expenditures for railways and canals, he referred to the unquestioned benefits which would come to all parts of the new Dominion as the result of these national investments. "Coming further East still, let us have our canal system completed, our connection with the Pacific Railway at the head of Lake Superior, the Northwest becoming rapidly settled, the exports of the settlers passing through our canals, and the whole system of the Ontario railways complete, and the result will be that the trade of the City of Toronto, which has doubled in five years, will be quadrupled. And the case will be the same with Hamilton, London, and other cities in the West. Such will be the direct and indirect results of these great facilities that it is not unreasonable to suppose that there will be increased ability to contribute to the revenues of the Dominion." He had similar expectations for the other regions of the country. In all of them, increased trade and increased investments and increased population, would promote greater prosperity and expanding government revenues. For perhaps 50 years, at least that was the gospel of Canadian development. I quote only one paragraph from this speech because budget rhetoric palls with repetition.

The settlement of western Canada was very definitely an experiment. The facts were not known, and if one looks back objectively at the evidence of the day, the records of the Selkirk settlers show that Sir George Simpson was probably right when he contended that the country was unfit for agriculture on any large scale, that the crops were too uncertain. The enthusiasts for settlement as early as 1860 were less informed than the people of the Hudson's Bay who had more intimate knowledge concerning the country. Successful settlement, as Professor Morton has pointed out depended on changes which were to take place later, and which had at that time not taken place. It needed changed circumstances before successful settlement could be carried out. In fact the years of the '70's and '80's after the brief boom in the early '80's, were all pretty generally years of disappointment, years of unfulfilled hopes.

About the middle of the '90's there came a great change in world conditions, and a changed condition within the region of western Canada itself. In the world at large the great technical improvements which had been going on in the railway field, in the application of steam power, in the development of more efficient steamships and steamship services, in the increased use of steel for construction of machinery, were bearing fruit in lower costs, particularly in lower transportation rates. Steadily from the '70's transportation rates fell, from 20 cents a bushel for wheat, from Montreal to Liverpool, to a low point of two cents a bushel, an abnormally low point in the early 1900's. The potential wheat producing areas were drawn closer to the consuming areas by these great technical improvements. As the industry of the world changed, in what someone has called the age of steel, there went on a rapid rate of urbanization, and a movement of people in countries like Great Britain, Germany and the United States, with a less rapid rate in France, to urban occupations and a corresponding increase in the market for foodstuffs, particularly cereals.

At first the wheat producing regions of the United States were the chief recipients of benefits from these changes. The falling wheat prices more than offset the falling transportation rates for a remote region such as western Canada. But about the middle '90's the fall in wheat prices ended and was converted

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into a rise, while the fall in transportation rates continued for some years more. In that change in prices there was a pronounced stimulus to the development of wheat growing in this region, and it was from that period that the rapid expansion of western Canada took place. She was drawn into a profitable relationship with the world market, on which she has always depended.

Within Canada itself the rapid and successful settlement was made possible by the adoption of Red Fife wheat, on account of its early maturing qualities, and the improvement in methods of farming adapted to an area where seasons were short and rainfall normally deficient. When these circumstances had been established the basis for expansion was laid and expansion took place at an extremely-rapid rate.

Of course, that was not the only factor in the development of the Dominion at that period. There were supporting forces. Mining in the Kootenay District, the development of Sudbury nickel, the beginning of the pulp and paper industry, the Klondike gold rush, all these and other changes gave impetus to the movement. The centre of it, and the focus of it, the dynamic drive behind it, was the settlement of western Canada and the development of a great wheat export. From the beginning of the century down at least until 1920 that was the central and greatest factor in the economic development of Canada. It was the fortune of this country that the changes in markets and demands which came about because of the War, accelerated its development in the directions already taken. In certain countries the War diverted development and set it off on new lines, but in Canada, in the main, with some exceptions in the manufacturing industry, it drove the development further along the lines already laid down.

I think you can see what that great expansion, dating from the late '90's, meant in the terms of economic organization of this territory, if you look at the two central facts of economic development, exports and investments. In the development of a country such as Canada these are the moving forces.

In 1890 our major exports in order of their importance were: sawmill products, cheese, fish, barley, base metals, coal, furs and fresh fruit. Where did they come from? The sawmill products were contributed by practically all the provinces except those of the Northwest; cheese was predominantly an Ontario export; fish from the Maritime provinces and British Columbia; barley was an Ontario export (soon to be ended by the McKinley tariff). Base metals, Ontario, and a limited amount from Quebec. Coal from Nova Scotia and little from other provinces. Furs were about the only export from the Northwest. Fresh fruit was an Ontario and Nova Scotia product. Practically every province had its own direct contact with world markets.

By 1920 the picture was completely changed, with the exception of sawmill products and base metals none of the exports of 1890 were of major importance. Wheat and wheat flour had become overwhelmingly the most important exports, and indeed, their total value by 1920 exceeded the total value of all Canadian exports as of 1910, and wheat, of course, was an export exclusively of western Canada. The economy of this country had been reorganized behind a single dominant export region. Instead of each region having its own contacts in the export market we had concentrated those contacts largely, not entirely, but largely in one region, and through it indirectly the other parts of the country entered the world market.

It is true that pulp and paper, our second great export, had assumed a most important position at that time, far behind wheat, of course. In northern Ontario and Quebec, and to a lesser degree elsewhere, pulp and paper had grown into a major export industry. Quebec and Ontario manufactures—automobiles, rubber products, leather, machinery, agricultural implements—were among the leading exports; an indication of the degree to which eastern manufacture had supplanted in 25 years the old form of organization dependent on lumber and agricultural exports of the East.

The picture is one of a country which had developed a single, highly specialized export region in which all parts of the country were economically interested. Probably at no time has there been such great economic unity in a country as there was in that period, because the prosperity of the whole country rested on the development of this western area.

Let us look at the other side of the picture, the investment of capital, much of which came from abroad. Through that period investment flowed in enormous quantities; it flowed into all parts of the country. Farm buildings and equipment, towns, elevators, transportation facilities, manufacturing establishments, electric power plants, were the forms in which the flow and distribution of investment went all over the country. Capital went into Ontario and Quebec in the East, and British Columbia in the West, and somewhat less in the Maritime provinces. But the purpose, the driving force behind it, was the development of western Canada. That was the greatest single impetus to that investment. As I said a considerable part of that investment came from capital from abroad. British and foreign capital poured in in enormous volume. At the same time eastern capital, Maritime provinces' capital, moved out of their own provinces into western Canada wherever profitable opportunities emerged.

We built up in that period, as new countries are prone to build up, a great and heavy debt based on the expectations of the future. Some of that debt was internal, requiring payment between different parts of the country, but a considerable part of it was external, requiring payments to be made in the future out of the proceeds of our exports.

As I said, that period had an economic unity which has been achieved at no other time probably in the history of this country, and part of that unity arose, because of the importance to all parts of the country of the western market. British Columbia was dependent on the Prairies for by far the major part of her lumber market. In the days before the Panama canal the Prairie market was the largest single factor in the British Columbia lumber industry. Ontario and Quebec, like today, had a great variety of manufactured products, goods used in the household, machinery used on the farms, processed materials used in the construction that was going on at a rapid pace. Even the Maritime provinces had some share. The Nova Scotia steel and coal industries rose on the basis of expanding manufactures in Ontario and Quebec, and the expanding market for railway materials in western railway construction.

The high proportion of manufacturing industries concentrated in Ontario and Quebec was partly determined by the advantages which that area had in access to raw materials and power, in access to markets, in closeness to the industrial centres of the United States, and partly on the deflecting influence of national policy in the form of a protective tariff, which directed the demand of the export region, of which the most important was western Canada, to the products of that area.

When we come to the post-war period, there is some difference in the history of development. We were faced in 1920 with the prospect of a rather critical readjustment. The drop in prices gave in western Canada, as it were, a foretaste of what might eventuate in later years if similar circumstances arose. Yet looking back at the early '20's the thing which impresses us now is the adjustment which was required then was fairly quickly made. It was unexpectedly easy even though the immediate problems were pressing. European agriculture which it had been expected would recover quickly, and so cut down the size of world markets, came back, as a matter of fact, slowly. The European markets proved to be freer from obstacles, more open to the products of the world, than it had been even before the War, resulting in the recovery of wheat prices. This and the improvements which had been made in western agriculture itself, gave the West by 1925, once more, a profitable relationship to the markets of the world. For another four or five years western expansion continued very much along the lines which it had followed in the preceding period. There was

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increase of area, good climatic conditions giving increases in yield, with prices, certainly from the point of view of the present time, not unsatisfactory, and there had been important developments in the technique of farming which made for agricultural expansion.

After 1925 there were other circumstances moving which were not clearly visible. European agriculture did begin to revive, particularly in central Europe and in Russia. Policies of protection were initiated, not merely to satisfy the ordinary interest of people in protection, but particularly to preserve the peasant populations of Central Europe, whom their governments thought were the chief bulwark against the sweep of Bolshevism.

For a period of years the accident of low yields, and policies of expanding credit, concealed a condition which was developing. The change in prices did not represent the full shift of conditions, and in the meantime western Canada, the chief export region of Canada, had moved into a position which we now see was vulnerable. By 1928, 41 per cent of the wheat imports of the United Kingdom came from Canada, which contributed 52 per cent of the world wheat exports of that year. These were facts which were pleasing enough to record in the annual speeches of people who reviewed the economic events of the year, but it meant that western Canada and Canada as a whole had a narrow space in which to manoeuvre for world markets, and that she was vulnerable to any change, to any movement or contraction in that market. As a people we were more dependent on wheat than any other people in the world. Our per capita production of the whole of the Dominion, not merely of the wheat producing area, was nearly double that of any other country in the world.

Another development, another set of forces arising in that period, was that new export regions and new export industries were developing in other parts of the country. The pulp and paper industry came into its own after the War. Pulp and paper and electric power gave a field for investment and a source of trade which bade fair to rival the wheat industry of western Canada. It had, as had wheat growing, been given a great stimulus by the influences of the War years. After 1922, Ontario gold mining began to give promise of becoming a major industry in the life of the nation. From about 1925 on, base metal mining in Ontario, Quebec, British Columbia and to some extent in this province, began to emerge as an industry of first importance. The resources on which it had developed were not new, they were known resources. The industry arose on the basis of new methods of treating ores which had been developed as a result of war time prices and war time experience. The province of British Columbia found a wholly new relationship to the world through the completion and effective use of the Panama canal which gave her once more access to the world and eastern markets directly rather than through the market of western Canada. We entered a period when the other parts of Canada had major exports of their own, which gave them direct entrance to world markets and made them somewhat less dependent on the market of the Prairie provinces. These new industries gave to other provinces an increased ability to carry on under the difficulties of the depression, for the gold mining industry not only proved resistant to depression, but depreciated currencies gave it a special stimulus.

In the base metal industries the element of growth was strong, and the fact that many of the plants operating could apply part of their costs to the incidental production of precious metals meant that the volume of output kept up in an amazing way, even through the depth of the depression. British Columbia lumber met severe enough difficulties but trade treaties, and the great decline of ocean transport rates, gave to it special relief. So we had by the time of the depression a different picture, a picture which was different not only because the disaster hit western Canada with specially devastating force, but because the economic organization of the country had been changed to a considerable extent in the period of the '20's.

When that depression came, the full knowledge of the extreme variability of wheat prices in face of changing world conditions became apparent. The resistance of a particular product to the influences of depression depend, from

one point of view, on the extent to which a movement in its price will bring about a readjustment. If the conditions surrounding a product are such that a fall in its price will stimulate and increase consumption and at the same time limit substantially its production you will get a quick readjustment to the new position, but wheat has proved to be an extreme of the opposite sort. The downward movement in price has done little or nothing to increase its consumption, partly because the downward movement of wheat has too little effect on the price of bread, but mainly because the effects of falling wheat prices have been prevented from getting through to a large proportion of the world's consumers by limitations of trade, which have held consumer's wheat prices in hitherto importing markets of the world not at lower but at higher figures than formerly.

On the other side the falling wheat prices were discouraging to producers. In those regions where wheat production is specialized, and where the opportunities for alternative production are very limited, falling wheat prices have on occasion brought not reduced production but even increased production, in the effort on the part of the producer to make up a fallen income by increasing his output even at a lower price.

So the place of western agriculture in the economy of this Dominion has over the past couple of decades changed. It is less important relatively to the Dominion as a whole because of the rise of new export regions, which compete with it for the interest of the other parts of the Dominion. The West is no longer the only contact or the predominant contact which the East and the rest of the Dominion has with the world markets on which this country still depends. The fact that the market for western products has contracted, and that it is not clear that that contraction is not a permanent one, has reduced its relative importance. Yet while its relative importance has declined, that should not blind us to the fact that whole sections of Canadian industry, Canadian finance, manufacturing and transport, are dependent on the western market, and for the deficiencies of that market only over a very long period of time could expansion of other regions compensate.

Let me suggest a simple demonstration of that fact. By 1937 we had had in Canada a very pronounced recovery from the depths of depression. In British Columbia, in many of the industries of Ontario and Quebec, and in the Maritime provinces, prices rose and business activity appeared to be back practically to the levels of 1929. It had achieved boom proportions and yet this country as a whole fell substantially short of employing to the full its working force. The deficiency in that period was not in the strength of recovery in the new export regions. The deficiency in that recovery prior to the recent recession was the failure of the prairie market to revive. I see no possibility that we shall in this country reach the desired goal of full employment for labour and all our resources until the time when by readjustment of costs or by opening of markets or by readjustments of the production in western Canada, or by any combination of these things, a profitable relationship is once more established between western agriculture and the world market, on which not only it, but the rest of Canada, depends. Thank you. (Applause.)

THE CHAIRMAN: Dr. Mackintosh, on behalf of this audience I want to thank you for your very able presentation of the economic background of the present position of western agriculture in relation to the Canadian economy. I am sure every member of the audience agrees with me when I say it was a very splendid contribution to our proceedings.

MR. DAVIDSON: In the speaker's very able presentation of this western position perhaps a few points in connection with the investment picture lying behind western development might be brought out a little further. I wonder if Dr. Mackintosh could give us in a few words the effect of western development upon the financial structure not only of the West but of the Dominion, and perhaps its effect upon Canadian debt as a whole.

DR. MACKINTOSH: It is difficult to do that in any great detail in a few words, but I take it what Mr. Davidson has in mind is this. The expansion of this Dominion during the period when the West, as I have said, was the focus of

that expansion, took place to a very large extent on the basis of borrowed capital. It is a fact of economic history that no type of settlement attains the speed and generates the degree of investment that the settlement of an agricultural grass land area does. That capital came to a considerable extent, (nearly four billion dollars by 1920, if I remember rightly), from abroad. A considerable part of it also came from eastern Canada. Even of what came from abroad to the West, a considerable part came through eastern Canada and set up inter-regional debts. A great part of that debt was a debt accumulated by the Dominion Government itself for its developmental projects, particularly the construction of railways and public works. The expectation was that that debt, public and private, would be serviced directly or indirectly out of the proceeds of exports which would arise when the development had had its effect, and the possibility of paying those debts and of paying the interest on them depended both in expectation and in fact to a very large extent upon an expanding export market for the products, the production of which was being financed and started by these great developmental expenditures and debts into which not only Canadian capital but the capital of the world poured in very great volume.

MR. DAVIDSON: The point I was just raising is that the debt structure which was created as a result of western development implies very large exports from Canada, particularly from this western area. I think that is the implication of your statement.

MR. FLEMING: I hesitate about getting on my feet, but I think we owe considerable of a debt to Dr. Mackintosh for the address he has given here. He has laid the emphasis on the proper place, and that is the matter of Canadian debt. I have been 59 years in this province and have been trying my level best to understand the process of development that has been going on, but I am firmly convinced we are on the right track when we give more than passing attention to this question of foreign debt. I learned the other day for instance, that Canada had borrowed from 1900 to 1913, the year before the War, about one billion two hundred million dollars from Great Britain and about four hundred million dollars from the United States. These were figures that I think are authentic, but I am quoting them as I recall them. The effect of this borrowing from abroad has simply been that it has really disqualified us for competition in growing wheat with our competitors. That has been to my mind the effect of such excessive borrowing of foreign capital. We are always wiser after the event, I know, and in blazing our way into the woods we are in, we are here to find our way out. Had we taken cognizance of some of the things that have happened it might have been better. But to my mind that is the crucial point that we are up against. Of course, obligations remain, and we are trying our best to preserve the good name of Canada in meeting our obligations, but they are no worse than our neighbours in other countries, perhaps not as badly off as other countries, because after all we are a country of great natural resources.

At one time Canada had the reputation of being the highest country in the matter of cost of living of any country in the world, and that is a natural result of such an influx. I want to put an emphasis on this, that I am convinced from my own observation and from what I have read of economics that the effect of our over-borrowing up to before the War has been a great disadvantage to ourselves, and that it has been actually disabling us in the competition we have to meet with other countries.

MR. BROCKINGTON: Mr. Premier, before I ask Dr. Mackintosh a question, just to start the discussion going, I would like to express the gratification of this audience first of all at the high standard of sincerity and lucidity that have marked both your own opening remarks and the speech of Dr. Mackintosh. We all wish to voice our appreciation also of the conception of the idea of this conference, and of the conviction that inspired it, and secondly of the persistence and industry which you and your colleagues have shown to make this splendid audience possible.

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If I might I would like to ask Dr. Mackintosh two questions, not by way of a contribution by myself, but to elicit a further contribution from him. It has been said, and I suppose with truth, that western Canada was built on the reasonable expectation of growth, and that when growth ceased some form of stagnation was the natural result of that cessation. I would ask Dr. Mackintosh if he would indicate whether in his opinion it is possible to stimulate further immigration, and what economic effect that immigration would have upon western Canadian agriculture?

The second question I would like to ask him is this: He emphasized the original economic dependence of eastern Canada upon western Canada's agriculture, and he indicated that perhaps there was a lessening interest now in western Canada as the point of contact between Canada and the world market. Did he mean by that that the East is now less economically dependent upon the prosperity of western Canada? I would be glad, Dr. Mackintosh, if you would kindly amplify those questions and relieve our doubts.

DR. MACKINTOSH: I will answer Mr. Brockington's questions as well as I can. They probe very deeply into the national difficulties of the present moment. It is true that the end of a period of growth, when part of the prosperity of a country is dependent on the rate of growth, a country encounters a necessary readjustment. That, I think, however, is not the basic difficulty with Canada as a whole. It is not the cessation of growth but the actual contraction from the point of view of trade of western Canada which is the great problem.

If he is speaking of immigration into western Canada, I do not think the days of great immigration can ever be revived. The settlement of this grassland agricultural area is an episode which is complete. There will be undoubtedly at times a flow of population into this part of the country, and into the country as a whole, but it will, and it should be, I think, a much slower and more orderly process than that which we experienced in the hectic days of pre-war development. Indeed there is very much to be said, and I presume it will be said in other parts of the programme, for the view that as far as the agricultural populace in western Canada is concerned the outlook is for some decrease rather than increase, though one would not say that with any great certainty, but there is certainly evidence looking in that direction in the tendency to larger farms.

With respect to eastern dependence and eastern interest in western Canada, I think I should be quite clear that in speaking of Eastern interest I mean the contact of business which presents vividly before business men and others their relationships to the fortunes of western Canada. I am not speaking of national or patriotic interests. There is, I would say, a relatively reduced interest in that the East is less conscious of the western market than it was 15 or 20 years ago. The collapse of the western market had a most pronounced effect on the East, but that effect was mitigated by the expansion of markets in other export regions, some of them within their own provinces. It is in that sense that I would say their interest had lessened relatively.

There are a larger proportion of business men in the East than there used to be who have neither direct business or personal contact with the problems of western Canada. They see expanding markets in other regions, but that does not mean, as I have emphasized, that there is an absolute decrease in interest or a lack of interest, for the East is, perhaps it is better to say that the country as a whole, is vitally dependent on the prosperity of western Canada, and the recovery of national prosperity depends on the reestablishment of western Canada upon a prosperous basis, whether that be a reorganized basis or not, a prosperous basis in relation particularly to the export market.

Perhaps while I am on my feet I may take the opportunity of adding one thing, one thing which I recall I omitted, which is from a national point of view a root of the problem. The new export industries which have arisen, and which

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are very much in the eye of the public in the last few years, present this grave national problem, that they are without exception based on rapidly wasting natural resources. They differ from agriculture in that respect, and that increases the long-run importance of western agriculture as against the immediate importance. (Applause.) The base metal industries and gold are consuming their resources, and consuming them at an alarming rate. The disturbing thing with respect to the mining industry is that there has not been in recent years any significant large discovery of new resources. What has taken place is the exploitation under improved processes, and in the case of the gold industry under higher prices of ore bodies which have for the most part been known for long periods of time. (Applause.)

MAJOR STRANGE: Mr. Chairman, in speaking of the contribution made by western Canada to the Canadian economy, I thought it would be interesting to note that we are calculating that when this present crop is sold something over ten billion dollars of wealth will have been created from wheat alone by western Canada, and that approximately eight billion dollars from wheat alone has been brought into the whole of Canada, within the 62 years since wheat first began to be exported. I suggest that is a very considerable contribution to the Canadian economy from wheat alone to say nothing about the other products we produced.

However, the cost of production for farmers of western Canada today is about 37 per cent more than it was before the war. The greater part of that is owing to the tariffs of Canada, and the other smaller portion of it is due to the higher hourly rates of wages of labour. But the greater portion is from the tariffs.

I find that the total population engaged in all manufacture and industry in Canada is not much more than 28 or 29 per cent of the Canadian population. All of those people do not, and all those industries do not enjoy tariff protection. I think therefore it is only fair to say that I believe a very careful investigation into the figures would prove this point, that the total number of people of Canada who are benefiting by protection of the manufacturing industry today is a figure less than the population of western Canada; that is, the total number of people, men, women and children, who are benefiting by tariffs on industry and manufactured products in the whole of Canada is less than the population of western Canada.

It occurred to me when we speak of what has been given to the western farmers in the form of bonus, perhaps it would be more correct to say it is assistance given this year by the Dominion Government as a form of concession for the bonus that eastern industry has received during the course of a great number of years.

MR. LEONARD NESBITT: I would like to ask the speaker what is the attitude of eastern Canada on the reduction of tariffs, and if it is possible for the West to influence that attitude to any extent. I would also like to know what is the attitude of eastern Canada on the farmers' desire in the West to perpetuate the Wheat Board.

DR. MACKINTOSH: I do not know any more difficult or dangerous thing to do than to attempt to read the attitude of any part of the country on any question. (Laughter.) It has always been very difficult to state a single attitude which represents any section of the country where with a large number of people there has been little thought given to a problem. The reduction of the Canadian tariff is one of the most substantial contributions which might be made to the reduction of the cost of production of wheat and other farm products in western Canada, there is no question about that. I think that there is in this field this hope. In developing exports of its own, eastern Canada has, I think a growing, though slowly growing, realization of the limiting effect of the tariff on export industries. That growth is slow but in some contact which I have had in years past with manufacturers in relation to tariff problems I have been strongly impressed with this. I have failed to find many manufacturers who when they get a full realization of what their actual tariff

position is as strongly protectionist as they were in what one might call their original prejudices.

There is and will be in eastern Canada or any other part where there are protected interests, opposition to a downward reduction of the tariff which brings only indirect benefits. You are likely to get much more support in eastern Canada for downward tariff reductions which bring along with them through trade treaties the tangible benefits of increased export markets. There will be fear that in the straight unilateral, one-sided reduction of tariff, the readjustment required in manufacturing industry may be substantial, and the gain to the export industry may not be immediate, but a rather long-run gain.

I may not have answered the question satisfactorily but those are my opinions which bear on it, and I would take it that that question is one which will arise probably repeatedly during this conference.

With respect to the Wheat Board, I very much question if there is any definable attitude in the East towards the Wheat Board—that is in the East as a whole. There is concern, I would say, at a guaranteed price above the market price as a proposed, if it is to be proposed, permanent policy. Not because the West is getting too much, but because it seems to have no stable foundation under it.

THE CHAIRMAN: If there are no other questions, I want to thank again Dr. Mackintosh for his address and the answers he has given to the questions put to him.

Monday, December 12, 1938
2.30 p.m.

Chairman, Hon. John Bracken.

THE CHAIRMAN: We have with us this afternoon Dr. C. F. Wilson, of the Agricultural Branch of the Dominion Bureau of Statistics, Ottawa. Dr. Wilson's paper is entitled, "An Appraisal of the World Wheat Situation."

AN APPRAISAL OF THE WORLD WHEAT SITUATION

by

DR. C. F. WILSON

AGRICULTURAL BRANCH—DOMINION BUREAU OF STATISTICS

MR. PREMIER, LADIES AND GENTLEMEN:

I would first like to express my personal thanks for the welcome you have extended to me.

In attempting to appraise the world wheat situation, I propose to review over the past 17 years the elements which have entered into this situation, under four main heads. Firstly, I shall describe the acreage, yield and production trends; secondly, the trends in total supplies, consumption and carry-over stocks; thirdly, the changes in world wheat trade; and fourthly, the course of world wheat prices. After summarizing these components as they relate to the present situation, I shall conclude with a statement of the immediate outlook.

TRENDS IN WORLD WHEAT PRODUCTION, 1922 TO 1938

The world wheat area, apart from Russia and China, has increased steadily within the past 16 years. Its level at 286 million acres in 1938 was 22 per cent above the level prevailing in 1922.⁽¹⁾ The increase in world acreage has been shared by

(1) Refer to Table 1, Page 27; Figure 1, Page 28.

both the exporting and the importing countries. Among the exporting countries, Canada and the United States have participated in the increase. Canada's wheat area reached a peak in 1932, while that of the United States reached its highest level in 1937. Argentine acreage rose to a record level in 1928, and after some recession in the middle thirties, it has resumed an upward trend. Australian acreage was almost doubled between 1922 and 1930. Appreciable curtailment occurred from 1931 to 1935, but within the past three years there has been an upward trend.⁽²⁾ Among the remaining exporting countries, those in the Danube Basin increased their acreages steadily until 1931. Only a small recession occurred in the years immediately following, and by 1938 their combined area was at a record level. India and French North Africa increased their acreages almost steadily throughout the period.

Nineteen European importing countries, considered together, expanded their wheat areas considerably from 1922 to 1933, and maintained them at a high level from 1933 to 1935. Within the past three years the reductions have only been minor.⁽³⁾ Because of higher yields per acre, one acre in the European importing countries is equivalent to one and two-thirds acres in the major exporting countries, in affecting production. When the foregoing acreage variations are all combined, their total result has been an almost steady increase in the world wheat area from 234 million acres in 1922 to 296 millions in 1938—a gain of 52 million acres. To put this increase vividly, so far as area is concerned, the equivalent of two new Canadas have come into wheat production since 1922.

Since acreage variations reflect the human element in wheat production, it is worth while to dwell briefly on the factors which have influenced growers the world over to expand their acreage as they have done. The world wheat price level has not functioned in the accepted sense by way of inducing acreage adjustments. It is true, of course, that the period of low prices from 1929 to 1934 affected the areas of some countries exposed to open market prices, notably Australia, and to a minor extent, Argentina. In Canada, however, acreage was higher even in 1933 than it had been in 1929 and 1930, although acreage reduction in both Canada and the United States was made in 1934. The Danubian countries practically maintained their acreages throughout this period, and India's acreage increased. The essence of the problem for growers in these countries was one of alternative opportunities, or rather their lack. Relatively, growers were less worse off in standing by wheat, than in turning to alternative land uses promising still smaller returns. While there has been some acreage contraction in the exporting countries during and immediately following periods of low wheat prices, periods of more remunerative prices have encouraged an even greater acreage expansion. Consequently, the upward adjustments have been greater than the downward adjustments.

Growers in the European importing countries met with a different situation. There can be little doubt that had these growers been subjected to open competition with foreign wheats during the depression period, they would have been forced into a large scale abandonment of wheat farming in favour of dairy and livestock production. National policies, farm and defensive, were directed toward the prevention of this transition. As a result, domestic wheat prices were so regulated, and wheat imports so controlled, that an expansion of wheat acreage in the importing countries was definitely stimulated during those years when open market prices, had they been permitted to compete, would have effected an acreage reduction. Thus, with wheat representing the first line of national defense in the importing countries, and the last line of economic defence in the wheat growing areas of the exporting countries, one can understand why price declines alone have not been effective in securing world acreage adjustments.

Not more than passing consideration need be given the variations in wheat yields per acre as they in turn affect the world volume of wheat production. Within the past 17 years world average yields have varied outside a range of 13.4 to 15.0

(2) Refer to Table 2, Page 27; Figure 2, Page 30.

(3) Refer to Table 3, Page 29; Figure 3, Page 31.

bushels per acre on only three occasions. The lowest average yield occurred in 1936 at 12.8 bushels per acre. The highest average yield occurred in 1938 at 15.4 bushels per acre.⁽⁴⁾ However, the difference between the lowest and the highest average yields recorded within the period under review implies a difference of 744 million bushels produced on 1938 acreage, or an amount considerably in excess of a year's world import requirements at recent levels. Practically all of the increase in 1938 world production over that of 1937 was due to the 1.9 bushel increase in the world average yield per acre.

Average yields, of course, vary much more considerably from year to year in individual countries, whereas the individual variations are frequently compensatory in the world averages. Within the past 17 years the most striking individual variations have occurred in Canada and the United States. The succession of abnormally low yields in Canada from 1933 to 1937, together with the low United States yields from 1933 to 1936, and one short Argentine crop in 1935, were primarily responsible for the return to reasonably balanced world supplies and requirements which characterized the situation in 1936 and 1937.

One might go on to say that the return to better yields in Canada and the United States in 1938 was inevitable, that the law of averages if given time would work. Such dependence on the law of averages can be misleading in advance of the event, as witness the Canadian yields in 1935, in 1936 and 1937. It is to the point here to mention that while Canadian wheat yields have not once come up to their 17-year (1922-38) average of 14.7 bushels within the past six years, and United States yields just equalled their 17-year average of 11.6 bushels in 1938 after five years of below-normal yields, the 19 European importing countries, taken as a whole, have experienced yields above their 17-year average within six of the past seven years.⁽⁵⁾ Most of these variations in yields are attributable to natural phenomena, and if the law of averages means anything at this time, it should imply lower yields for Europe and better yields for North America within the next several years. Such a condition would contribute toward increased trade; yet even if the problem were one of pure chance, implying that reversal of North American and European yields must come eventually, it does not follow that because the European countries have had "heads" on the past several throws, they must get "tails" on the very next few throws, nor in the North American countries, vice versa. Some may logically argue that use of artificial fertilizers in Europe has served to increase the yield per acre, and conversely that soil deterioration in North America has served to lower the yield per acre, but the natural phenomena, principally weather, are overruling in their importance with regard to yields.

When the significant changes in acreages and yields are fully appreciated, little remains to be said of the variations in world wheat production. During the five-year period, 1922-26, world production, excluding Russia and China, averaged 3,345 million bushels. In the next five-year period 1927-31, production rose by 448 millions, on the average to 3,793 million bushels. In the 1932-36 period, average production declined by only 116 millions, with major decreases in North America offset to a considerable extent by increases in the European importing countries and in a number of ex-European countries. In 1937 and 1938, world production rose sharply in both years, with production of approximately 4,400 million bushels in 1938, due to the conjuncture of large acreage and record yields per acre in a majority of countries, establishing an all-time record volume.⁽⁶⁾

Leaving to a later point discussion of the outlook for world production in 1939, I mention here parenthetically the production trends in Russia and China, whose figures have been kept separate from those used in the foregoing analysis. Russian wheat production was badly disrupted during the Great War and in the early years of the Revolution. So far as Russian figures can be relied upon, the average 1909-13 wheat area of 74 million acres had been more than halved in 1922. Since then, expansion was marked until 1931, and with some recession in 1932 and 1933, due to

(4) Refer to Table 1, Page 27; Figure 1, Page 28.

(5) Refer to Tables 5 and 6, Pages 34 and 35; Figures 5 and 6, Page 33.

(6) Refer to Table 1, Page 27; Figure 1, Page 28.

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the government's effort to shift from proprietary to collectivist farming, acreage rose in the next three years to a peak of 101 million acres in 1937. Production increased almost proportionately with acreage, and rose from 390 million bushels in 1922 to 1,135 million bushels in 1937.⁽⁷⁾ While figures are not available for 1938, some reduction has been indicated by reason of drought conditions in the spring wheat areas. Russia, in the main, has absorbed domestically her increased wheat production. True it is, of course, that sporadic exports have been made, and as the latter result directly from government policy, they comprise one of the incalculable factors in export trade. Data are lacking on Chinese production, except for recent years. From 1931 to 1936, production in China and Manchukuo combined was uniformly good, averaging 859 million bushels through these years. In 1937 and 1938 production was in the neighborhood of 200 million bushels lower. These serious deficiencies have not been matched by increased imports because of the war-disrupted conditions.⁽⁸⁾

TRENDS IN TOTAL SUPPLIES, CONSUMPTION AND CARRY-OVER STOCKS

Total wheat supplies, as used here, include world production, ex-Russia and China, world carry-over stocks at the beginning of each crop year, and Russian net exports during each season, since the latter are a factor in world supplies. It will be remembered that Russian production and carry-over stocks were not included in the total production and stock figures. The data for world consumption of wheat are derived by deducting the year-end carry-overs from the season's total supplies, and for want of actual consumption figures for all countries, the derived figures for consumption might be better termed the world disappearance of wheat.⁽⁹⁾

It will be noted that from 1922-23, to 1927-28, world supplies and disappearances were in very good balance, in that the year-end carry-overs of wheat during this period remained at low absolute levels ranging from 528 to 697 million bushels. World carry-over stocks within such a range are no larger than needed to ensure adequate supplies for consumption and export in each crop year before the new harvests are fully available. While production was increasing between 1922 and 1927, world disappearance in these years rose proportionately. The large world crop of 1928, however, exceeded by a considerable margin the disappearance in the 1928-29 season, despite a further increase in the latter. As a result, the world carry-over on August 1, 1929 rose by 260 million bushels over that of the preceding year. For the next six years this excess in the world carry-over was never digested. Rather the excess grew worse from 1931 until 1934 when the carry-over reached a peak level of practically 1,200 million bushels. It should be noted that while these year-end stocks were increasing, the world disappearance of wheat also increased, but not proportionately, up to the crop year 1931-32 when it reached a peak of 3,929 million bushels. Since then the disappearance has levelled out at amounts only slightly below the peak of 1931-32. That world disappearance could have been maintained at a high level from 1931-32 through 1937-38 consistently with the considerable decline of world trade in wheat during the same period is due to the fact that the importing countries were producing more of their own requirements than ever before within comparatively modern times.

When production dropped off sharply in North America, and one Argentine crop failed, disappearance had an opportunity from 1934-35 to 1936-37 to catch up on supplies. The excess in carry-over stocks was finally eliminated in 1937 when the low level of 527 million bushels was attained. For two crop years 1936-37 and 1937-38 supplies and consumption were in reasonable balance. It was a balance accomplished, however, by crop failures in surplus producing countries. The unusually large world production of 1938 has once again upset the balance, and a world carry-over in 1939 between 1,000 and 1,100 million bushels appears almost inevitable. One third of this carry-over, however, will be in the United States where adjustments are in progress.

(7) Refer to Table 11, Page 45.

(8) Refer to Table 12, Page 45.

(9) Refer to Tables 13 and 14, Page 48; Figures 14 and 15, Pages 46 and 47.

INTERNATIONAL TRADE IN WHEAT AND FLOUR, 1922-38

International trade in wheat and flour on the grand scale of the 1920's was foredoomed when a majority of the European importing countries determined to produce more of their own wheat requirements. It is not within my province to deal with the complex motivating forces, partly a matter of domestic farm relief, partly the necessity of balancing their external economies with the onset of the depression, and partly to insure food supplies in their programmes of defense, which led the European countries to stimulate their own domestic production. We are fortunate in having Dr. Wheeler, an authority on the European situation, who will discuss this factor in the wheat problem fully. It is my purpose here merely to tie in the export and import trends with the other elements of the wheat situation.

World net exports of wheat and flour averaged 777 million bushels in the five crop years, 1922-23—1926-27. In the next five-year period, 1927-28—1931-32, world net exports averaged 805 million bushels. Then in the next five-year period, 1932-33—1936-37, when European domestic production and import control measures attained their full effect, world net exports were reduced by 29 per cent to an average of 571 million bushels.⁽¹⁰⁾ Net exports from the four major exporting countries experienced a somewhat more than proportionate decline between the two five-year periods of 32 per cent. One of the four major exporters, the United States, however, was itself on an import basis in three of the five years in the latter period. Danubian exports declined proportionately and Russian exports which had been comparatively heavy in 1930 and 1931 were considerably restricted in the following years. The nine ex-European minor exporting countries, chiefly India and French North Africa, actually increased their exports on the average between the 1927-28—1931-32 and the 1932-33—1936-37 periods, but their contribution to total world net exports was still of a small order.

Of the net importing countries, the United Kingdom reduced its imports relatively the least of any.⁽¹¹⁾ The effect of increased domestic production following the Wheat Act of 1932 which assured growers minimum prices is perceptible, partly in a small increase in domestic consumption, and partly in a small decrease in annual imports. The Irish Free State has guaranteed its growers minimum prices within recent years, and production has risen from less than one million bushels in 1932 to 7.7 million bushels in 1938. Imports during this period have declined proportionately. United Kingdom and Eire imports combined averaged 224 million bushels in the first, 236 millions in the second, and 224 million bushels in the third period covered.

At the other extreme in curtailing imports have been the major continental countries, France, Germany and Italy. The combined net imports of these countries averaged 201 million bushels annually in 1922-23—1926-27, 172 million bushels in 1928-29—1931-32, and 42 million bushels in 1932-33—1936-37. Between the second and third periods the decline amounted to 77 per cent. In these countries the governmental limitations on imports were most severe, with domestic production raised close to the point of fulfilling their own requirements. The remaining European importing countries likewise did much to provide domestically for consumption needs. In comparatively densely populated countries with limited land areas such as Belgium and Denmark, a reduction in imports has been more difficult to achieve, although the Netherlands has made some progress in this direction. The Scandinavian countries and others bordering on the Baltic have had considerable success in developing production and curtailing imports. The same is even more true of Czechoslovakia, Greece, Portugal and Spain, with Austria and Switzerland the only importing countries remaining which have not made much advance along these lines. Considering the continental importing countries as a group, apart from France, Germany and Italy, their net imports averaged 173 million bushels annually in the first period, rose to 203 millions in the second period and then declined to 136 million bushels in the third five-year period, with the decrease between the second and third periods amounting to 33 per cent.

(10) Refer to Table 15, Page 50; Figures 16 and 18, Pages 49 and 52.

(11) Refer to Table 16, Page 50; Figures 17 and 19, Pages 51 and 53.

MARKETS FOR WESTERN FARM PRODUCTS

Ex-European importing countries, whose takings as a group rose from 131 million bushels on the average in 1922-23—1926-27 to 162 million in the following five-year period. In 1932-33—1936-37 these imports dropped back again to 127 million bushels, an average level just below that prevailing in the earlier twenties.

While the French and Rumanian governments have counselled their growers to reduce winter wheat seedings this autumn, I shall not attempt to appraise the outlook for European policy on acreages, which again will be done for us by Dr. Wheeler. The significance of European measures for expanded production and restricted imports within the past seven years to the situation in the major exporting countries, has been very evident. In the years when large export surpluses have prevailed these surpluses have had to compete more severely for the more limited import outlets, with consequent price effects. Only in the few recent years when a series of yield deficiencies in the exporting countries reduced export supplies within range of the low import requirements have export prices been remunerative to growers who had wheat to sell. The sharp increase in export supplies for the 1938-39 season has had its telling effect upon market prices. Moreover, in comparing the physical volume of world net exports of wheat and flour with the physical volume of total world merchandise trade, it will be seen that wheat exports have not been commensurate with the volume of other commodity trade, since the wheat import restrictions have been in effect.⁽¹²⁾

WHEAT PRICES, 1922-38

The major fluctuations in open market prices during the past 17 years are best reflected in the British parcels prices for imported wheat.⁽¹³⁾ These fluctuations are marked by a rise from the immediate post-war depression levels to an average of \$1.82 in 1924-25 when supplies in that crop year were seasonally short. There then occurred a comparatively orderly decline in prices until early in 1930. This decline was accompanied by an increase in supplies which found ready markets up to 1928-29 as prices were brought into line. Despite the first significant increase in carry-over at the end of the 1928-29 season, prices actually rose in the summer of 1929 in view of the short harvest of that season. Early in 1930, in company with the bad disruption of security markets, and with the slow import demand which developed that season, wheat prices began their precipitous yet extended decline to the bottom levels of December, 1932. The price debacle of this period was in large part the joint product of the world economic depression plus a badly maladjusted situation between wheat supplies and requirements themselves. With the upturn of the general business cycle in 1933 and 1934 wheat prices recovered moderately although excessive export supplies still prevailed. When these latter supplies were liquidated within the next two crop seasons, prices returned to their pre-depression levels. The most recent break in prices was initiated by the adverse general business developments in the autumn of 1937, but the growing apparentness through the spring and summer this year of another major wheat surplus has put British parcels prices so far during the 1938-39 season within 20 cents of the 1932-33 average level.

The manner in which growers in many European countries, particularly France, Germany and Italy, were protected against the competition of foreign wheat, is illustrated in the domestic prices paid to growers in these countries which for the past eight years have been maintained at a level well above open market prices.⁽¹⁴⁾

It is obvious when combinations of high acreages and high yields have resulted in excessive export supplies, that export prices have reverted, in consequence, to levels unremunerative to the growers. When world export supplies within the past 17 years are set beside the British parcels prices year by year, the very definite inverse relation between the amounts of world available export supplies and prices is revealed.⁽¹⁵⁾ Prices relatively favourable to producers in the years from 1922 to

(12) Refer to Table 17, Page 56; Figure 20, Page 54.

(13) Refer to Table 18, Page 56; Figure 21, Page 55.

(14) Refer to Table 18, Page 56; Figure 21, Page 55.

1928, and again in 1936 and 1937, coincided with those years in which export supplies no more than comfortably met import needs. That these two "favourable" periods differed in certain important respects, should not go unnoticed. From 1922 to 1928, export growers on a more moderate acreage with mostly average yields supplied a larger import market. Without belittling the farm debt problem of that period, carried over by some from the war, the benefits from a wheat situation in adjustment were then comparatively well distributed among the export growers. In 1936 and 1937 the adjustment resulting from major crop failures, while import demand remained curtailed, did not distribute the gains of high prices to the export growers who had little or no crops to sell. Moreover, these growers had just come through the long period from 1930 to 1935 when the maladjustment in supplies and the depression had kept prices low.

While this comparison of export supplies and prices may seem to neglect the demand side of the situation, the effect of the marked alteration in import demand between the two periods 1922-1928 and 1936-1937 is apparent even in the supply and price relations.⁽¹⁶⁾ It will be noted that export supplies from 1935-36 to 1937-38 were some 200 million bushels lower than on the average from 1922-23 to 1927-28. Had the demand situation remained unchanged during these two periods, export prices should have been higher in the latter period than in the former. On the other hand, prices averaged 27 per cent lower. Briefly, the major price trend has been downward since the curtailment in imports, and is revealed, in addition to the effects of all other factors, in a level of prices from 1931 to 1935 lower than it would otherwise have been if excessive stocks in the exporting countries and general depression conditions had been the only factors operating, and again lower than the 1936-37 level would have been, had not comparatively low import demand taken the edge off the alleviating influence of adjusted export supplies. The impact of the altered demand on wheat prices is also illustrated clearly in a comparison of wheat prices with the general index of wholesale prices.⁽¹⁷⁾ An index of British parcels prices on a 1929-30 base, compared with the United Kingdom Board of Trade index of wholesale prices on a 1929 base, discloses wheat prices relatively more favourable than general prices throughout most of the period prior to 1929. Since then wheat prices have been continuously less favourable than general prices except in 1936, and these two periods correspond roughly with the major change in import demand.

SUMMARY OF THE PAST SEVENTEEN YEARS

Despite the pitfalls of such generalizations, I believe that the major trends in the various elements of the world wheat situation can be related as follows:

1. The almost unrelenting increase in world acreage to a record level in 1938 has been brought about, on the one hand, by the determination of the European importing countries not to permit world wheat prices to induce shifts from wheat production to that of other farm commodities better adapted to the efficient use of land adjoining large European urban centres. On the other hand, apart from various measures directed toward agricultural relief in the exporting countries, export growers have had in most instances to maintain their wheat acreages rather than accept still worse alternatives. For this reason, periods of low wheat prices have not functioned by themselves to obtain any material adjustment in export areas, as by *a priori* economic reasoning they might be expected to do.
2. World average yields per acre usually vary within a narrow range, although yields by localities can show much greater variation. The greatest exceptions in world yields occurred in 1936 with a low yield of 12.8 bushels and in 1938 with a high yield of 15.4 bushels per acre. The probabilities are that these extremes are not likely often to be repeated, but these are by no means beyond the realm of possibility. That higher than average yields in the importing countries, coincided

(15) Refer to Table 19, Page 59; Figure 22, Page 57.

(16) Refer to Table 19, Page 59; Figure 22, Page 57.

(17) Refer to Table 20, Page 59; Figure 23, Page 58.

with lower than average yields in North America, within recent years, may purport a reversal of this situation in the next several years, but even if yields were a matter entirely of chance, the theory of probability does not insist that this must occur in the very next few years.

3. Record world production of 4,397 million bushels in 1938 represented an increase of 553 million bushels over the production of 1937. The world wheat area increased by only one million acres between the two years, and had 1938 average yields remained the same as they were in 1937, the increase in 1938 production would have been only 13.5 million bushels. Thus the increase in 1938 acreage accounted for only 2.5 per cent of the increase in 1938 production, while the record average yield per acre accounted for the remaining 97.5 per cent. Whether the world acreage is too high or not too high is relative to average yields harvested on that acreage. It so happened that 1934, 1935 and 1936 world acreages in conjunction with the yields harvested in those years failed to produce at a rate up to consumption requirements, and excess carry-over stocks were liquidated. Again, it so happened that 1938 acreage and the 1938 yield have produced considerably beyond effective consumption requirements, and excess supplies have again accumulated.

4. World wheat acreage at any level above that which would deliberately threaten shortage in world supplies, must be expected to be tempered largely by yield variations in its effect upon annual world production. The same acreage producing at one time deficient supplies and at another time excess supplies leads to alternate adjustments and maladjustments in supplies and carry-over stocks. From this it follows that the major fluctuations in open market prices in the past were unavoidable, having been mostly affected by the major changes in supplies.

5. On the demand side, total annual world utilization of wheat rose during the twenties until the 1931-32 season, following which it levelled out until 1937-38. Import demand, however, has experienced a major contraction since 1931-32, and the limited import requirements exerted a further depressing force to that of excess supplies on open market prices from 1932 to 1935. Continued restriction of import demand kept prices from rising to the levels attained in the middle twenties, during 1936 and 1937, when export supplies were even lower than they had been in the earlier period. The impact of restricted import demand has been reflected in wheat prices less favourably related to the general level of wholesale prices than was the case prior to the import restrictions. In addition the physical volume of world wheat exports has not compared as favourably with the physical volume of world trade in general since the import restrictions have come into effect.

OUTLOOK

Concluding with a short appraisal of the outlook for wheat, I would like to quote from the recently published "Farm Outlook for 1939" of the United States Department of Agriculture. It says:

"The present world acreage of wheat, approximately 285 million acres, is about 15 million acres or five per cent above that necessary with average yields to produce a crop equal to the usual needs."

As far as acreage is concerned, there are high possibilities that the necessary adjustment will be made. In the first place, the apparent reduction in the United States winter wheat area sown for next year's harvest of 10½ million acres from that of the previous autumn will restore the sown winter wheat area in the United States to approximately its 1935 level. Climatic conditions to date also suggest that there may be more than the usual winter abandonment. The same government incentives which contributed to reduction in winter wheat acreage this autumn are also applicable in the ordinary course of events to the spring wheat seedings in 1939. The extent to which the spring areas may be reduced remains to be ascertained. When it is borne in mind that almost 12 million of the last major increase of 17 million acres in world wheat acreage between 1935 and 1938 took place in the United States, it is apparent that the country to the south is undertaking a large

part of the reduction in world wheat acreage which its Department of Agriculture regards as necessary to provide, on the average, supplies equal to present world disappearance.

It is too early yet to know what the European countries have put into winter wheat, although this element in the situation should be clarified shortly. The drought which has developed in India may lead to some acreage abandonment. Spring wheat areas for 1939 generally are, of course, quite indeterminate as yet.

Regarding world wheat trade during the current crop season, shipments to date have moved in somewhat better volume than anticipated at the beginning of the season. It is difficult at this point to anticipate whether or not this improvement will be maintained. For this reason one can forecast the July 31 world carry-over only within somewhat wide limits of 1,000 to 1,100 million bushels. Of this total carry-over, roughly 30 per cent will be held in the United States where adjustment is in progress.

Although some changes in acreage are already apparent, much of the acreage story is still to be revealed. However, the potential variations in 1939 world average yields are overruling in importance to the known acreage trends. Other things being equal, a repetition of 1938 yields in 1939 would add gravely to the current excess supplies. A repetition of 1936 yields would enhance their liquidation. Yields midway between these extremes may leave the current supplies unaltered. Here, of course, we are entering into the realm of sheer fancy.

In conclusion I need hardly point out that any appraisal of the world wheat situation of the foregoing nature assures implicitly that wheat is a single commodity. This, of course, is remote from the truth, and among the exporting countries quality considerations and markets for particular types must modify the applications of a world appraisal to any one of these countries. As far as this country is concerned, continual attention to high quality and strict grading, allied to the benefits of our favourable climate, will induce a special overseas demand for a considerable proportion of the Canadian crop.

MARKETS FOR WESTERN FARM PRODUCTS

STATISTICAL APPENDIX TO DR. C. F. WILSON'S PAPER

ACKNOWLEDGEMENTS

The data shown in the following tables and figures have been drawn from the following sources:

Dominion Bureau of Statistics.

Food Research Institute.

International Institute of Agriculture.

League of Nations, Economic Intelligence Service.

United States Department of Agriculture.

Wheat Advisory Committee.

TABLE 1

WORLD ACREAGE, AVERAGE YIELD AND PRODUCTION OF WHEAT

Years	Ex-U.S.S.R. and CHINA	Area (Million acres)	Yield per Acre (Bushels)	Production (Million bushels)
Average 1909-13		211	14.5	3,052
" 1922-26		236	14.1	3,345
" 1927-31		260	14.6	3,793
" 1932-36		270	13.6	3,677
1922		234	13.7	3,204
1923		235	15.0	3,519
1924		228	13.7	3,127
1925		240	14.1	3,380
1926		243	14.4	3,494
1927		248	14.8	3,673
1928		264	15.1	3,996
1929		257	13.9	3,584
1930		266	14.5	3,847
1931		264	14.6	3,865
1932		269	14.4	3,865
1933		272	14.1	3,835
1934		265	13.4	3,543
1935		269	13.4	3,601
1936		276	12.8	3,540
1937		285	13.5	3,844
1938(1)		286	15.4	4,397

(1) Preliminary unofficial estimates.

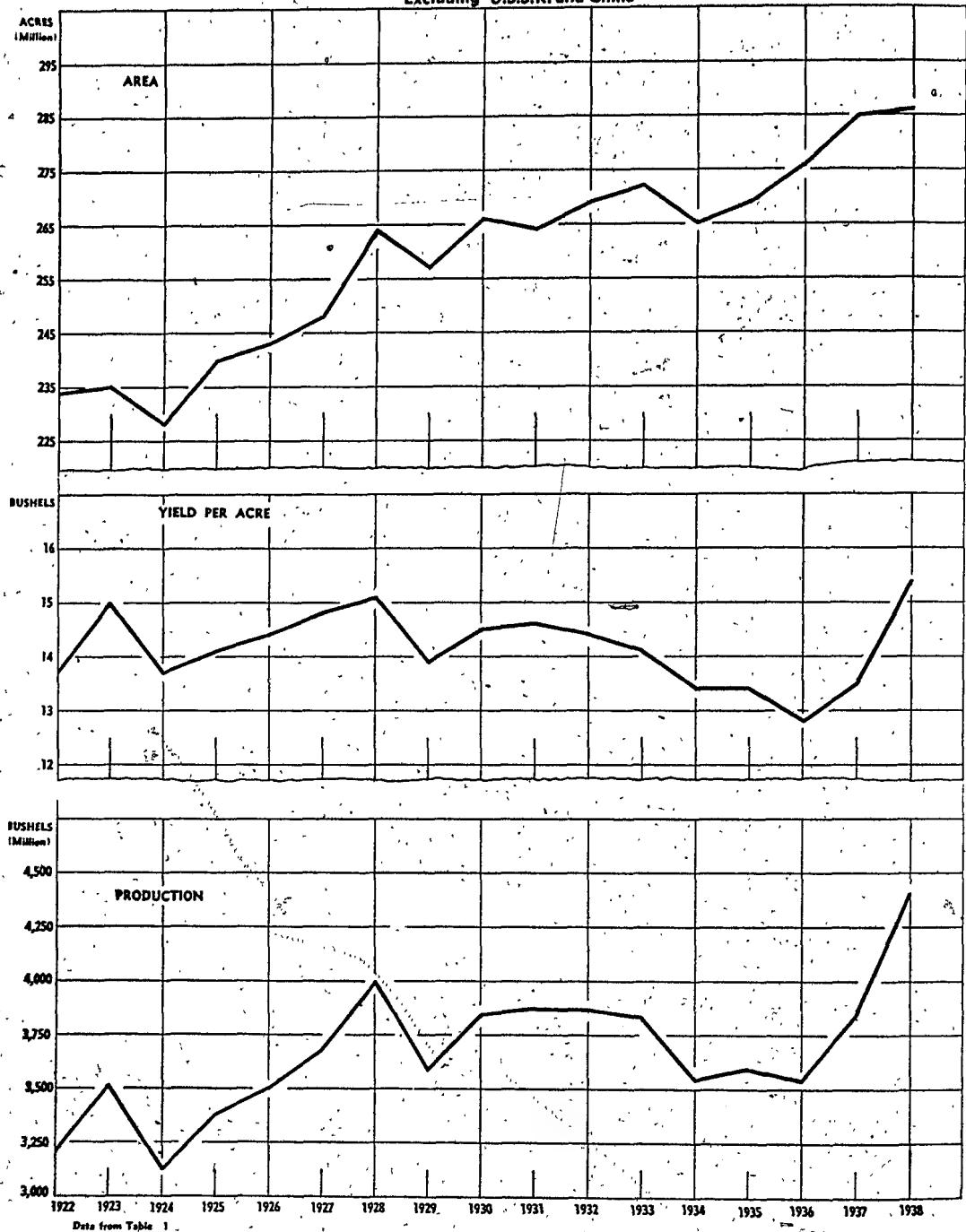
TABLE 2

WHEAT ACREAGE IN THE FOUR MAJOR EXPORTING COUNTRIES

Years	Canada ⁽¹⁾	United States ⁽¹⁾	Argentina ⁽¹⁾	Australia ⁽²⁾
	(Million acres)			
Average 1909-13	10.0	52.0	16.1	7.6
" 1922-26	22.0	62.0	18.0	10.4
" 1927-31	24.6	67.4	20.5	15.0
" 1932-36	25.4	68.2	18.0	13.5
1922	22.4	67.2	16.3	9.8
1923	21.9	64.5	17.2	9.5
1924	22.1	55.7	17.8	10.8
1925	20.8	61.7	19.2	10.2
1926	22.9	60.7	19.3	11.7
1927	22.5	65.7	20.7	12.3
1928	24.1	71.2	22.8	14.8
1929	25.3	66.8	20.5	15.0
1930	24.9	67.2	21.3	18.2
1931	26.4	66.0	17.3	14.7
1932	27.2	65.9	19.8	15.8
1933	26.0	68.5	19.7	14.9
1934	24.0	63.6	18.8	12.5
1935	24.1	69.2	14.2	12.0
1936	25.6	73.7	17.5	12.3
1937	25.6	81.4	18.9	13.7
1938	25.9	81.1	20.8	14.4

(1) Sown area. (2) Harvested area.

Figure 1
WORLD ACREAGE, AVERAGE YIELD AND PRODUCTION OF WHEAT
 Excluding U.S.S.R. and China



MARKETS FOR WESTERN FARM PRODUCTS

TABLE 3
WHEAT ACREAGE IN EUROPEAN AND EX-EUROPEAN COUNTRIES⁽¹⁾
Excluding the Four Major Exporters, the U.S.S.R. and China

Years	Six ⁽²⁾ European Exporting Countries	Nineteen ⁽³⁾ European Importing Countries	Seven ex- ⁽⁴⁾ European Exporting Countries	Twenty-six ⁽⁵⁾ ex-European Importing Countries
Average 1909-13	23.2	50.5	42.5	8.8
" 1922-26	20.9	46.7	47.2	9.2
" 1927-31	23.7	48.8	49.6	9.6
" 1932-36	24.8	52.8	54.2	10.5
		(Million acres)		
1922	19.3	45.9	44.8	9.0
1923	19.4	46.7	48.0	10.5
1924	21.4	46.0	44.8	8.4
1925	22.0	47.3	49.1	8.8
1926	22.3	47.7	49.1	9.1
1927	22.5	48.7	46.5	9.3
1928	23.1	48.3	50.4	8.9
1929	22.4	47.7	49.7	9.3
1930	24.5	49.1	49.5	9.7
1931	25.9	50.0	51.7	10.6
1932	23.6	51.7	53.8	9.8
1933	24.6	53.2	51.7	9.6
1934	24.4	53.2	55.9	10.5
1935	25.6	53.3	55.9	11.3
1936	25.7	52.5	54.0	11.1
1937	25.7	51.6	54.2	10.8
1938	26.1	51.4	55.7	11.2

- (1) Mainly harvested areas.
 (2) Including Rumania, Hungary, Yugoslavia, Bulgaria, Poland and Lithuania.
 (3) Including United Kingdom, Eire, Belgium, Denmark, Netherlands, France, Germany, Italy, Austria, Czechoslovakia, Switzerland, Norway, Sweden, Latvia, Estonia, Finland, Greece, Portugal and Spain.
 (4) Including India, Algeria, French Morocco, Tunisia, Turkey, Chili and Uruguay.
 (5) Including Bolivia, Peru, Brazil, Japan, Chosen, Egypt, South Africa, New Zealand, and eighteen minor importing countries.

TABLE 4
WHEAT ACREAGE IN SPECIFIED EUROPEAN COUNTRIES

Years	United Kingdom	France, Germany and Italy	Seven other ⁽¹⁾ Importing Countries
Average 1909-13	1.85	32.32	2.04
" 1922-26	1.73	28.76	2.35
" 1927-31	1.44	29.59	2.93
" 1932-36	1.73	31.10	3.85
		(Million Acres)	
1922	2.04	27.96	2.27
1923	1.81	28.87	2.28
1924	1.60	28.52	2.23
1925	1.55	29.38	2.37
1926	1.65	29.07	2.60
1927	1.71	29.68	2.75
1928	1.46	29.49	2.89
1929	1.38	29.08	2.73
1930	1.40	29.60	3.07
1931	1.25	30.08	3.20
1932	1.34	31.25	3.32
1933	1.74	31.82	3.63
1934	1.87	31.05	3.97
1935	1.88	30.82	4.15
1936	1.81	30.55	4.16
1937	1.84	30.25	4.17
1938	1.93	29.92	4.22

- (1) Including Belgium, Netherlands, Denmark, Norway, Sweden, Switzerland and Greece.

Figure 2
WHEAT ACREAGE IN THE FOUR MAJOR EXPORTING COUNTRIES

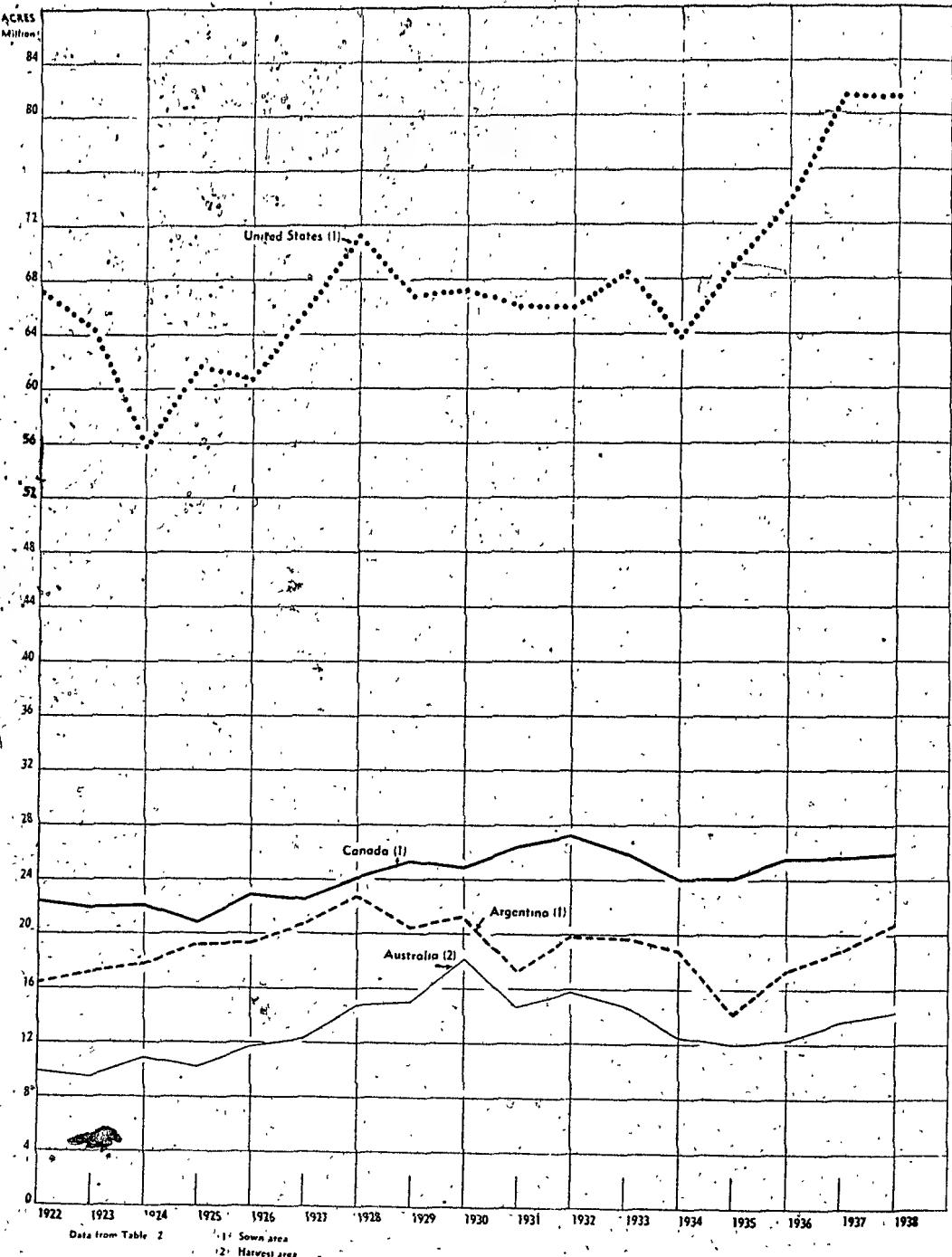
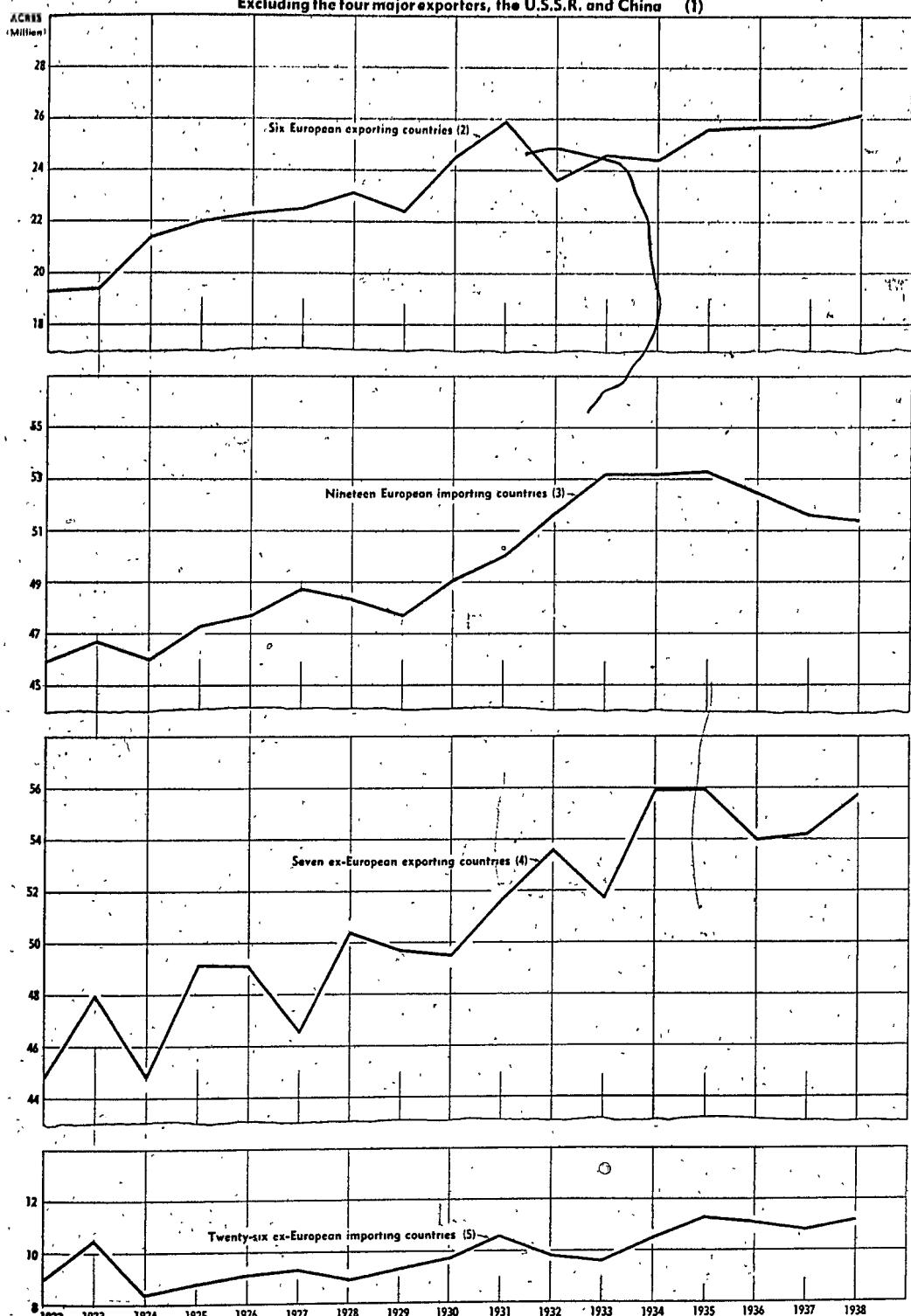


Figure 3

WHEAT ACREAGE IN EUROPEAN AND EX-EUROPEAN COUNTRIES
Excluding the four major exporters, the U.S.S.R. and China (1)



Data from table 3

(1) Mainly harvested areas.

(2) Including Rumania, Hungary, Yugoslavia, Bulgaria, Poland and Lithuania.

(3) Including United Kingdom, Eire, Belgium, Denmark, Netherlands, France,

Germany, Italy, Austria, Czechoslovakia, Switzerland, Norway, Sweden, Latvia,

Estonia, Finland, Greece, Portugal and Spain.

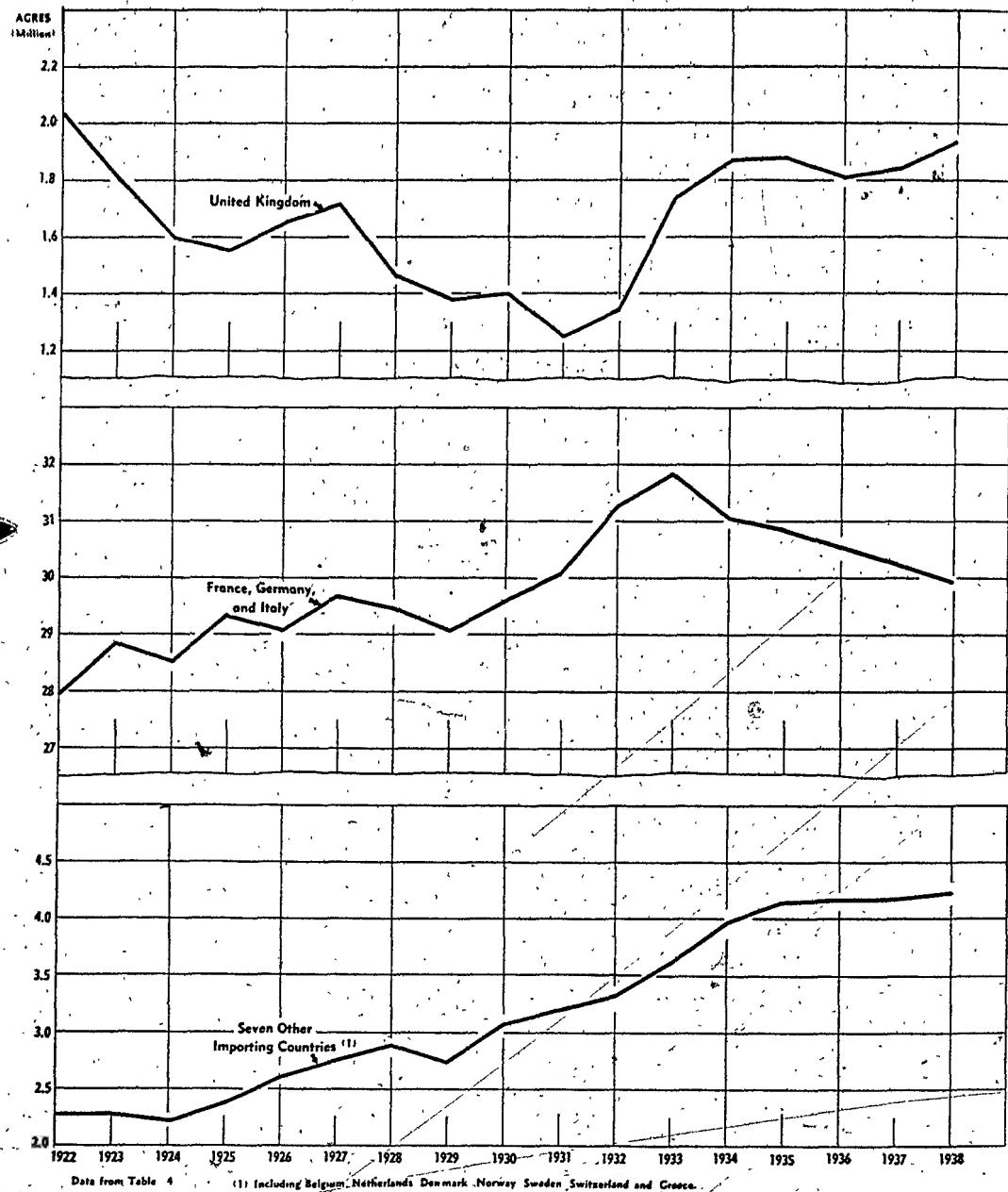
(4) Including India, Algeria, French Morocco, Tunisia, Turkey, Chile and Uruguay.

(5) Including Bolivia, Peru, Brazil, Japan, Chosen, Egypt, South Africa,

New Zealand and 18 Minor importing countries.

Figure 4

WHEAT ACREAGE IN SPECIFIED EUROPEAN COUNTRIES



Data from Table 4

(1) Including Belgium, Netherlands, Denmark, Norway, Sweden, Switzerland and Greece.

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 5

WHEAT YIELDS PER ACRE IN THE FOUR MAJOR EXPORTING COUNTRIES

Years	Canada	United States	Argentina	Australia
	(Bushels per acre)			
Average 1909-13	16.8	13.1	9.2	11.9
" 1922-26	17.6	12.7	11.8	13.0
" 1927-31	17.0	13.2	12.1	10.8
" 1932-36	11.8	9.1	12.9	12.2
Average 1922-38	14.7	11.6	12.2	11.8
1922	17.8	12.6	12.0	11.2
1923	21.7	11.8	14.4	13.1
1924	11.9	15.1	10.7	15.2
1925	19.0	10.8	10.0	11.2
1926	17.8	13.7	11.9	13.8
1927	21.4	13.3	13.6	9.6
1928	23.5	12.9	15.3	10.8
1929	12.1	12.3	7.9	8.5
1930	16.9	13.2	10.9	11.8
1931	12.2	14.2	12.7	12.9
1932	16.3	11.5	12.2	13.6
1933	10.8	8.1	14.6	11.9
1934	11.5	8.3	12.8	10.6
1935	11.7	9.1	10.0	12.1
1936	8.6	8.5	14.2	12.3
1937	7.1	10.7	9.6	13.7
1938	13.4	11.6	13.7 ⁽¹⁾	9.4 ⁽¹⁾

(1) Preliminary unofficial estimates.

TABLE 6

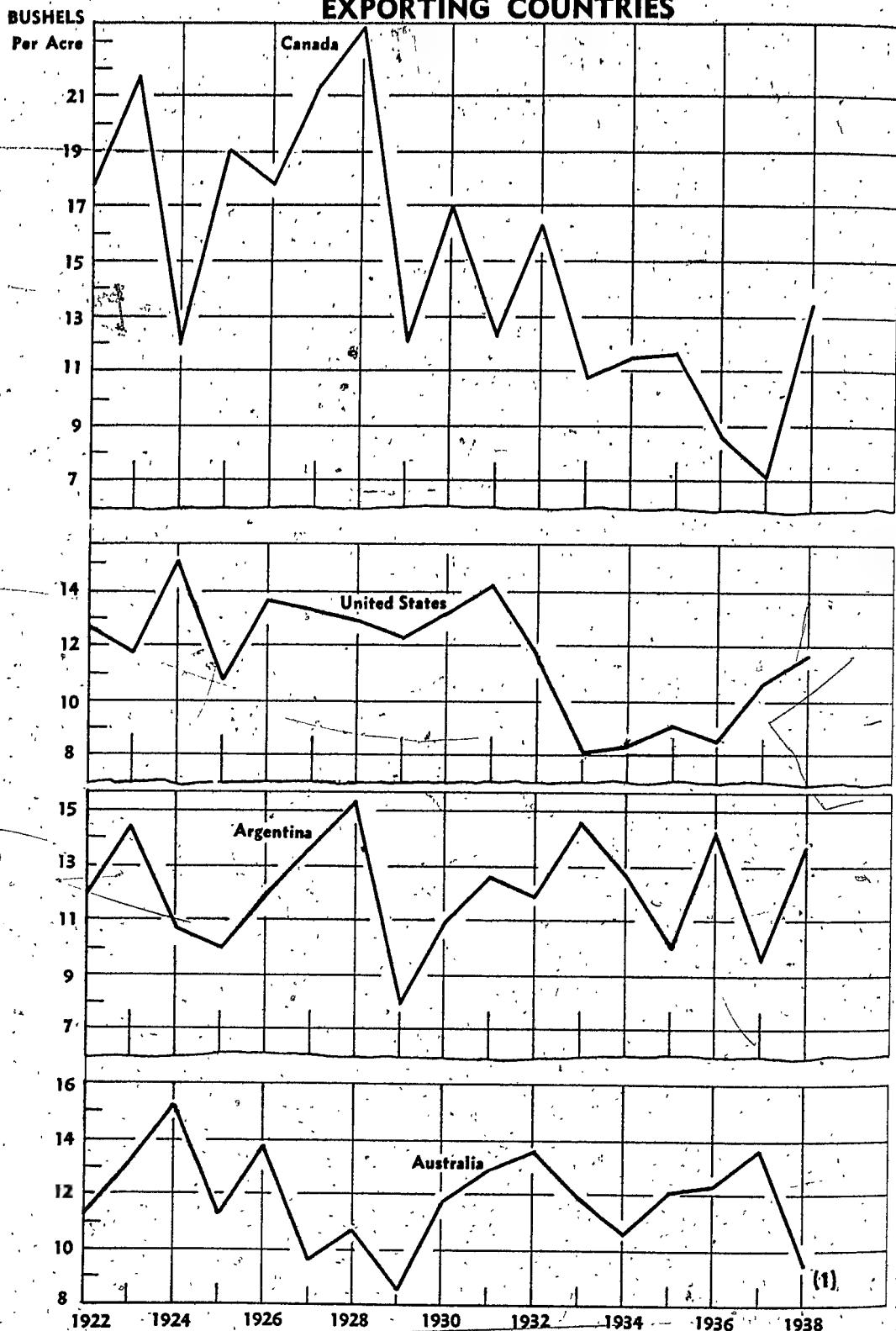
WHEAT YIELDS PER ACRE IN EUROPEAN AND EX-EUROPEAN COUNTRIES⁽¹⁾

Excluding the Four Major Exporters, the U.S.S.R. and China

Years	Six European Exporting Countries	Nineteen European Importing Countries	Seven ex-European Exporting Countries	Twenty-six ex-European Importing Countries
	(Bushels per acre)			
Average 1909-13	17.0	19.0	11.6	13.4
" 1922-26	14.9	19.1	10.8	13.9
" 1927-31	17.4	20.0	10.6	15.4
" 1932-36	15.6	22.4	10.4	15.9
Average 1922-38	16.3	20.9	10.7	15.2
1922	14.2	16.9	11.1	14.2
1923	16.4	20.3	11.4	12.0
1924	11.5	17.9	11.4	13.8
1925	16.6	21.9	9.7	14.8
1926	15.7	18.3	10.3	15.0
1927	15.0	19.3	10.5	15.5
1928	18.7	20.3	9.1	14.6
1929	16.9	22.4	11.0	16.5
1930	18.1	18.6	11.7	15.3
1931	17.8	19.5	10.7	15.0
1932	11.9	23.4	9.6	15.8
1933	18.5	24.2	11.0	16.2
1934	13.8	22.7	10.5	15.8
1935	15.1	22.3	10.3	16.3
1936	18.3	19.2	10.8	15.7
1937	17.1	21.7	11.5	16.0
1938	20.3	24.4	12.0	15.7

(1) For countries included see Table 3.

Figure 5
WHEAT YIELDS PER ACRE IN THE FOUR MAJOR EXPORTING COUNTRIES



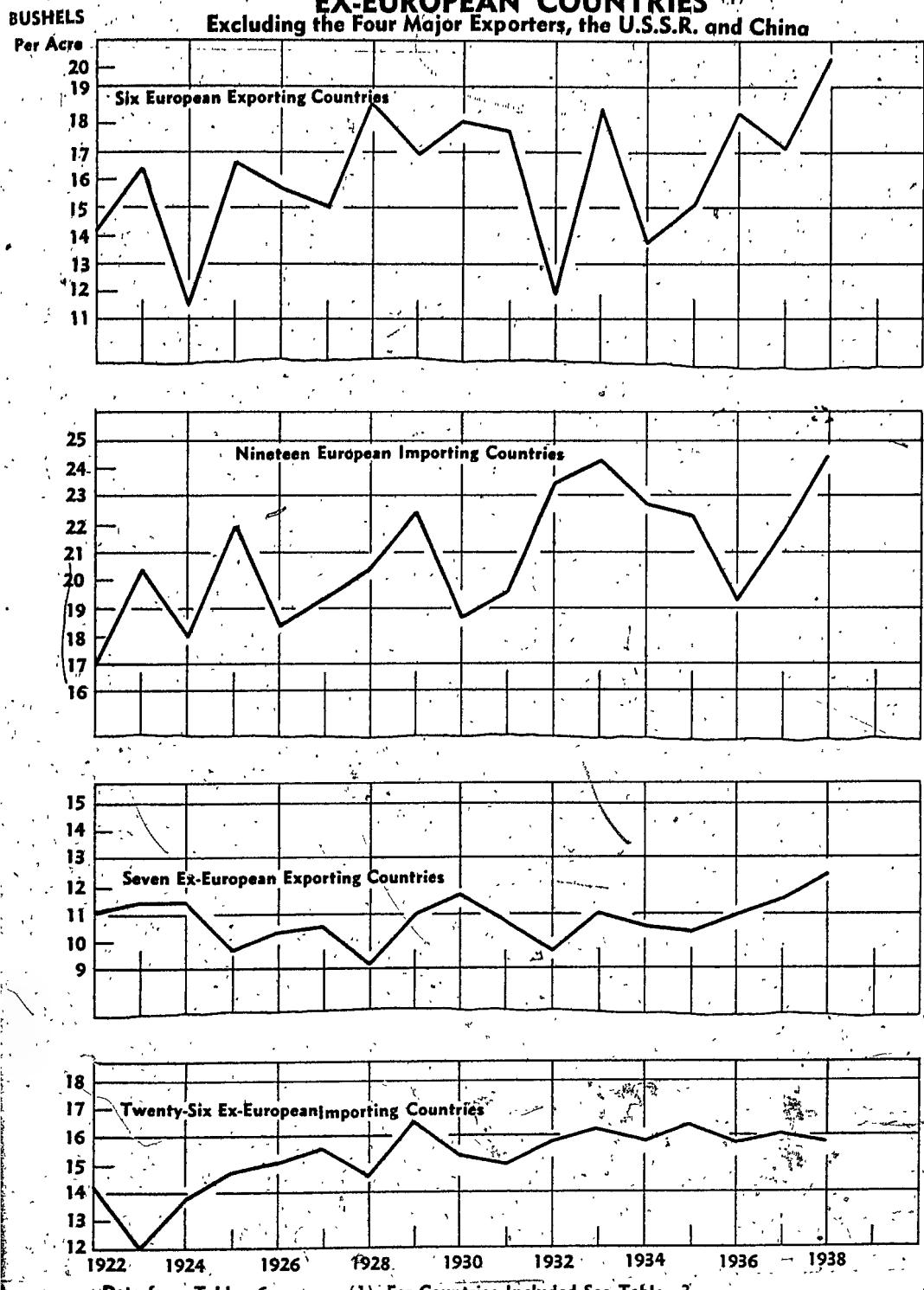
Data from Table 5

(1) Preliminary Unofficial Estimate

Figure 6

WHEAT YIELDS PER ACRE IN EUROPEAN AND EX-EUROPEAN COUNTRIES⁽¹⁾

Excluding the Four Major Exporters, the U.S.S.R. and China



Data from Table 6

(1) For Countries Included See Table 3

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 7
WHEAT YIELDS PER ACRE IN SPECIFIED EUROPEAN COUNTRIES

Years	United Kingdom	France, Germany	Seven other ⁽¹⁾
		and Italy	Importing Countries (Bushels per acre)
Average 1909-13	31.5	19.4	23.9
" 1922-26	32.5	20.2	22.1
" 1927-31	32.7	21.7	22.8
" 1932-36	34.3	24.3	25.9
Average 1922-38	33.3	22.5	24.5
1922	32.0	17.3	21.1
1923	32.8	21.4	23.2
1924	33.1	19.3	18.9
1925	34.1	23.7	25.0
1926	30.9	19.0	21.9
1927	32.6	20.2	23.9
1928	34.1	22.1	25.5
1929	36.1	24.8	24.2
1930	30.1	19.5	21.1
1931	30.2	22.1	20.0
1932	32.5	25.4	25.9
1933	35.9	27.2	28.5
1934	37.3	23.8	27.5
1935	34.8	24.0	25.8
1936	30.6	21.1	22.0
1937	30.7	23.6	26.3
1938	36.5	27.7	29.2

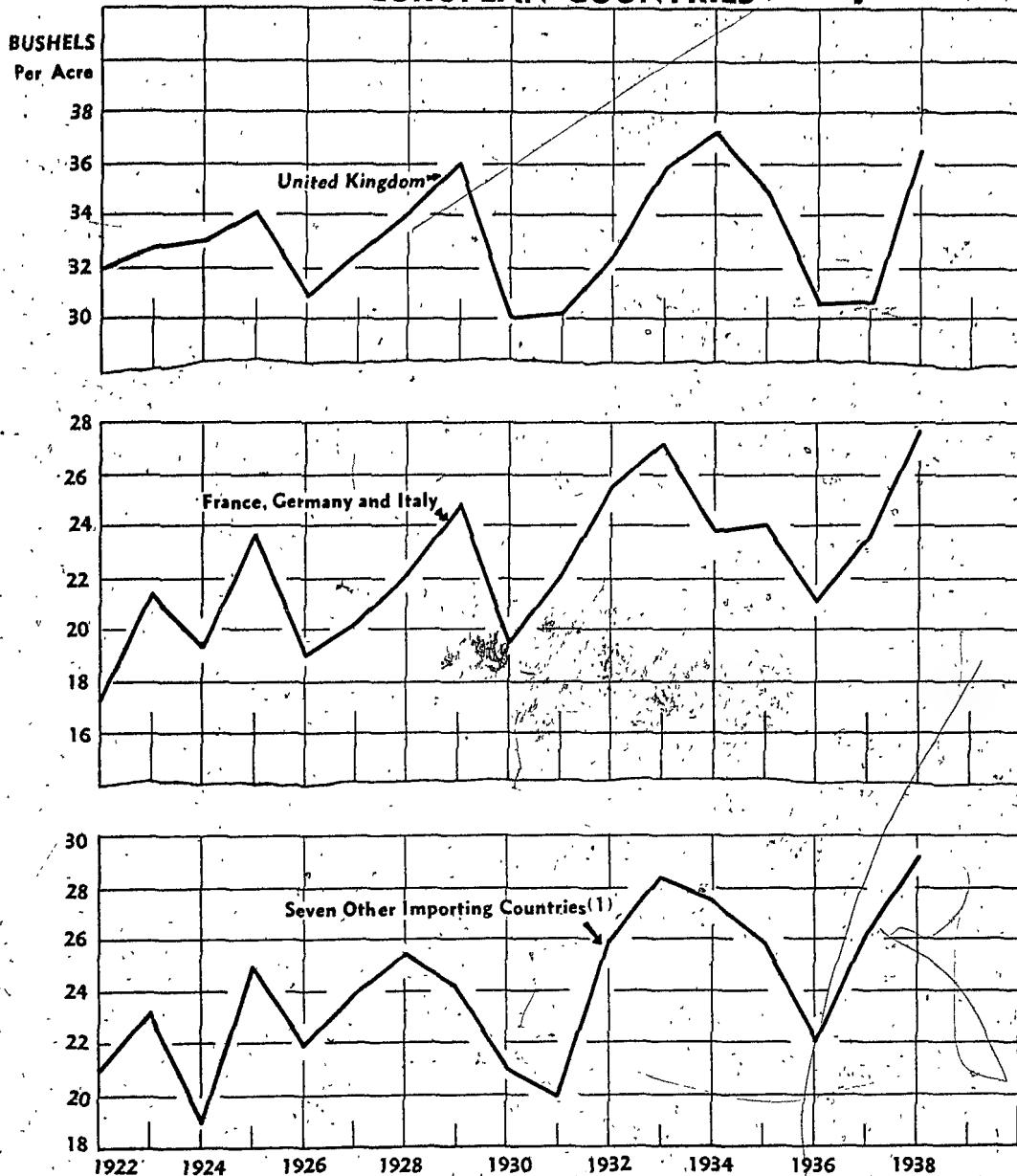
(1) Including Belgium, Netherlands, Denmark, Norway, Sweden, Switzerland and Greece

TABLE 8
WHEAT PRODUCTION IN THE FOUR MAJOR EXPORTING COUNTRIES

Years	Canada	United States	Argentina	Australia
		(Million bushels)		
Average 1909-13	112.4	681.8	147.1	90.5
" 1922-26	387.7	789.7	211.2	134.9
" 1927-31	418.6	888.2	249.2	161.8
" 1932-36	300.4	617.6	231.7	164.0
1922	399.8	846.6	195.8	109.4
1923	474.2	759.5	247.8	125.0
1924	262.1	841.6	191.1	164.6
1925	395.5	668.7	191.1	114.5
1926	407.1	832.2	230.1	160.8
1927	479.7	875.1	282.3	118.2
1928	566.7	914.4	349.1	159.7
1929	304.5	823.2	162.6	126.9
1930	420.7	886.5	232.3	213.6
1931	321.3	941.7	219.7	190.6
1932	443.1	756.9	240.9	213.9
1933	281.9	551.7	286.1	177.3
1934	275.8	526.4	240.7	133.4
1935	281.9	626.3	141.5	144.2
1936	219.2	626.8	249.2	151.4
1937	182.4	874.0	184.8	188.0
1938	348.1	940.2	285.0 ⁽¹⁾	135.0 ⁽¹⁾

(1) Preliminary unofficial estimates.

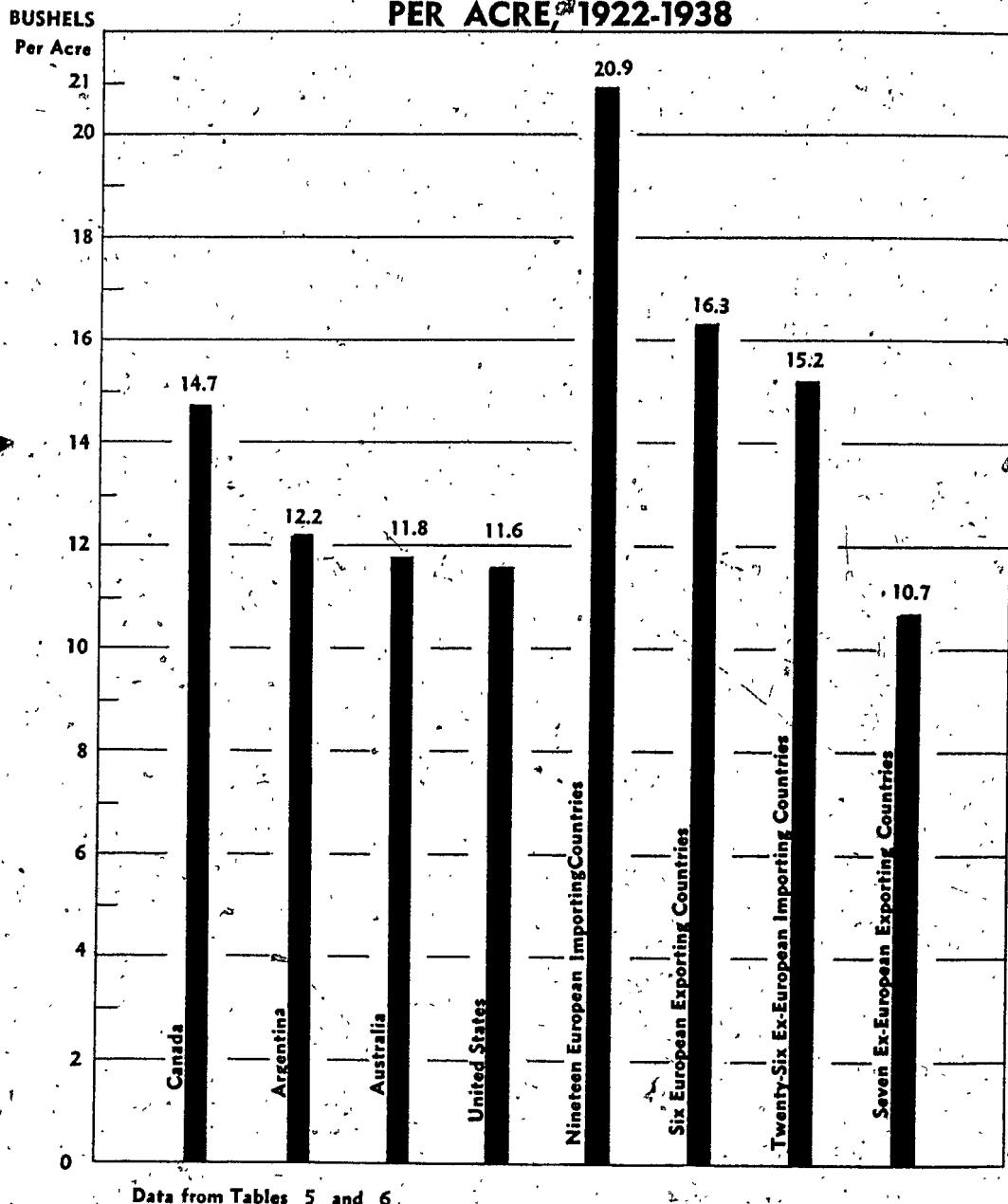
Figure 7
WHEAT YIELDS PER ACRE IN SPECIFIED
EUROPEAN COUNTRIES



Data from Table 7

(1) Including Belgium, Netherlands, Denmark, Norway, Sweden, Switzerland and Greece.

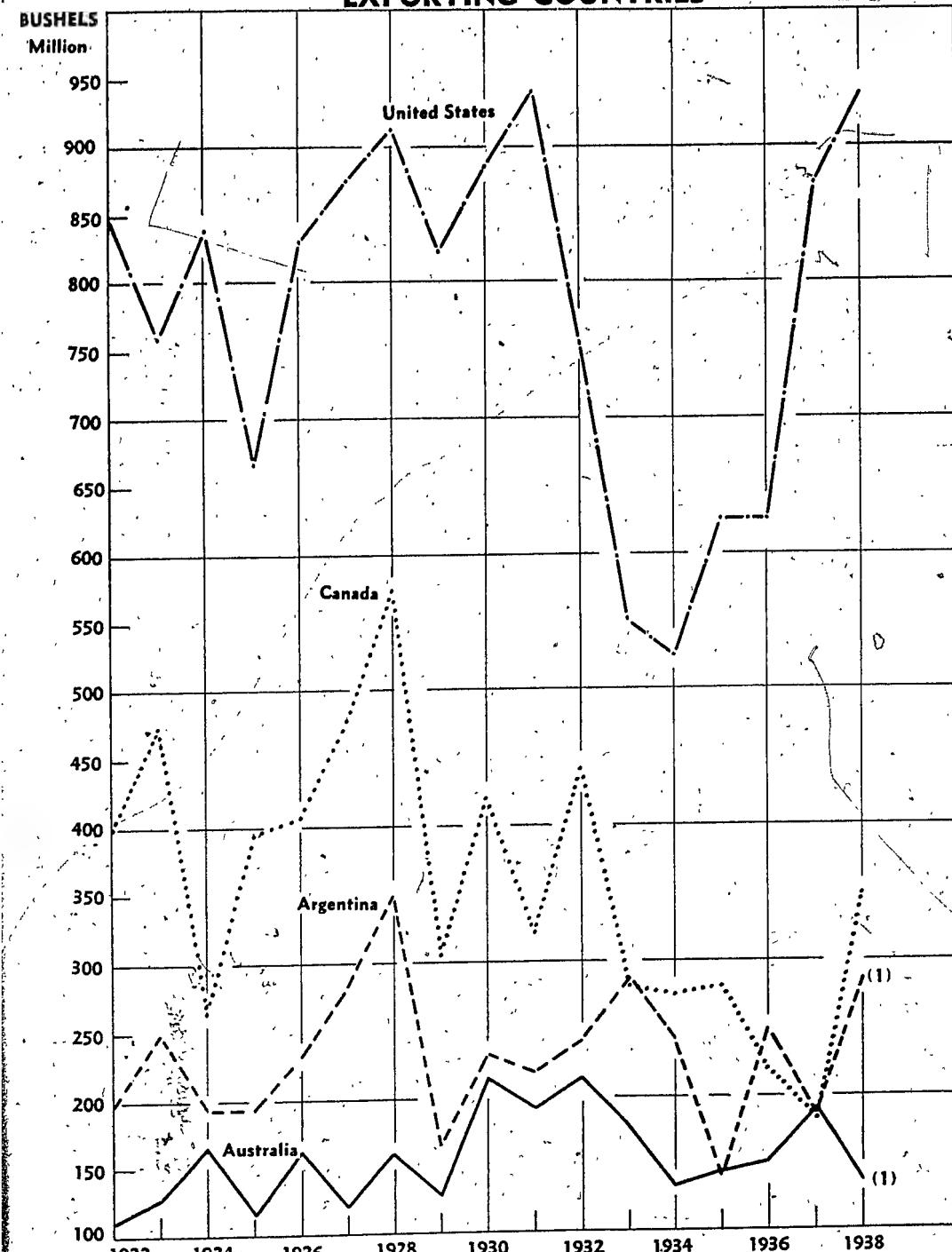
Figure 8
SEVENTEEN-YEAR AVERAGE YIELDS
PER ACRE, 1922-1938



Data from Tables 5 and 6

Figure 9

WHEAT PRODUCTION IN THE FOUR MAJOR EXPORTING COUNTRIES



Data from Table 8

(1) Preliminary Unofficial Estimates

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 9
WHEAT PRODUCTION IN EUROPEAN AND EX-EUROPEAN COUNTRIES⁽¹⁾

Excluding the Four Major Exporters, the U.S.S.R. and China

Years	Six European Exporting Countries	Nineteen European Importing Countries	Seven ex-European Exporting Countries	Twenty-six ex-European Importing Countries
	(Million bushels)			
Average 1909-13	395.0	959.8	492.0	118.2
" 1922-26	310.6	891.2	507.3	127.2
" 1927-31	411.1	975.3	525.4	146.9
" 1932-36	385.7	1180.5	565.9	166.6
1922	274.0	777.2	498.7	127.4
1923	317.9	949.6	545.0	126.0
1924	245.3	821.4	511.3	116.6
1925	365.6	1037.1	475.6	130.0
1926	350.4	870.9	506.1	136.1
1927	338.6	941.4	489.9	144.3
1928	432.7	976.7	460.8	129.1
1929	378.2	1071.3	544.8	154.1
1930	444.0	914.9	577.4	147.9
1931	462.0	972.4	554.2	159.1
1932	280.4	1207.2	514.7	154.7
1933	455.7	1286.9	571.1	155.5
1934	336.2	1209.8	588.9	165.2
1935	385.6	1189.2	573.2	183.6
1936	470.7	1009.4	581.8	173.9
1937	440.3	1119.0	623.0	173.2
1938	529.8	1254.4	677.4	175.7

(1) For countries included see Table 3.

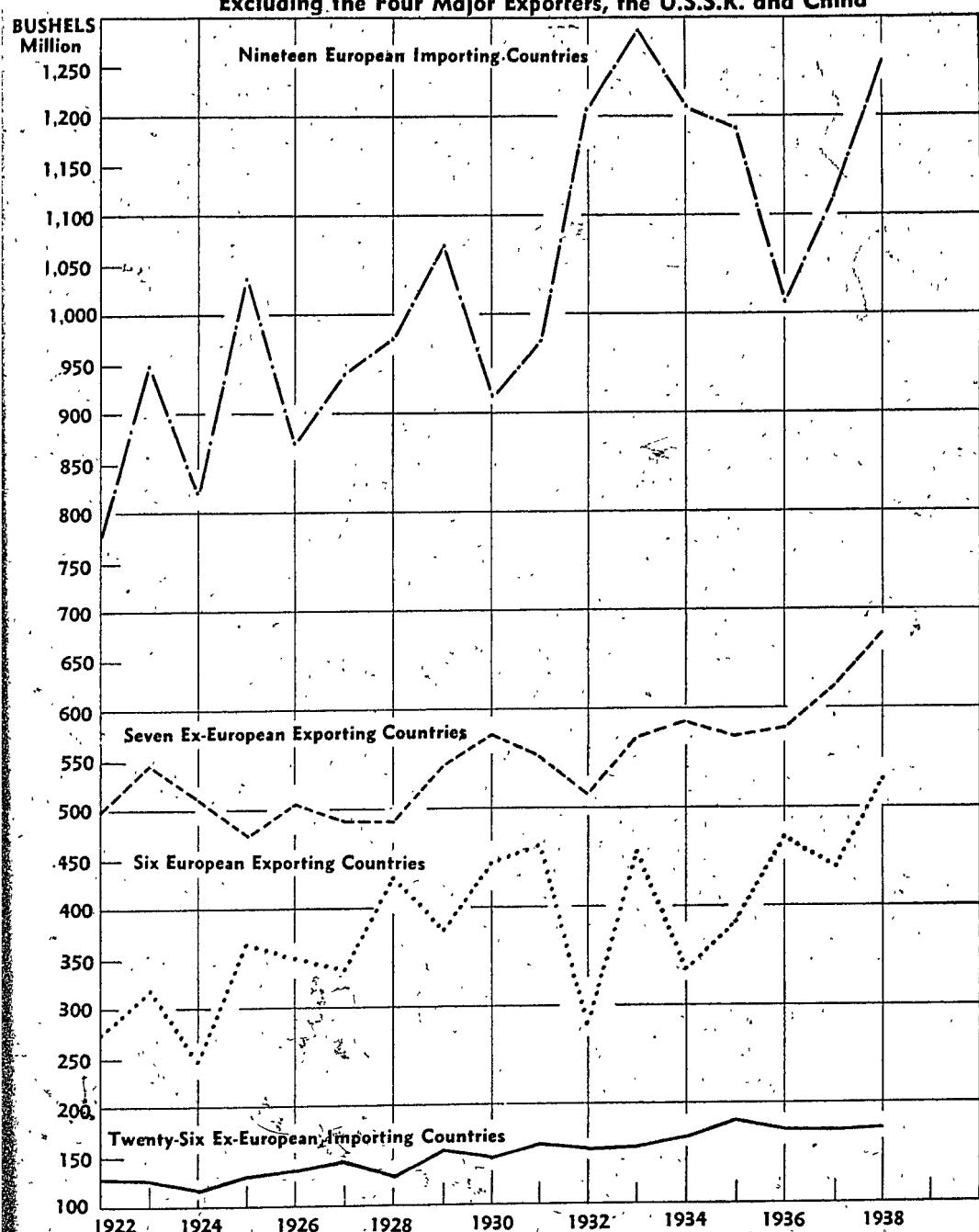
TABLE 10
WHEAT PRODUCTION IN SPECIFIED EUROPEAN COUNTRIES

Years	United Kingdom	France, Germany and Italy	Seven other ⁽¹⁾ Importing Countries
	(Million bushels)		
Average 1909-13	58.3	628.1	48.8
" 1922-26	56.3	579.8	51.8
" 1927-31	47.1	642.4	66.9
" 1932-36	59.3	756.2	99.5
1922	65.2	483.8	48.0
1923	59.4	617.8	53.0
1924	52.9	549.4	42.1
1925	52.9	695.2	59.2
1926	51.0	552.6	56.9
1927	55.8	598.4	65.6
1928	49.8	651.5	73.8
1929	49.8	720.5	66.2
1930	42.2	577.4	64.8
1931	37.8	664.0	63.9
1932	43.6	794.2	85.9
1933	62.4	866.7	103.3
1934	69.8	737.8	109.3
1935	65.4	739.3	107.2
1936	55.3	643.2	91.6
1937	56.4	715.3	109.7
1938	70.5	828.4	123.1

(1) Including Belgium, Netherlands, Denmark, Norway, Sweden, Switzerland and Greece.

Figure 10
WHEAT PRODUCTION IN EUROPEAN AND EX-EUROPEAN COUNTRIES
 Excluding the Four Major Exporters, the U.S.S.R. and China

(1)

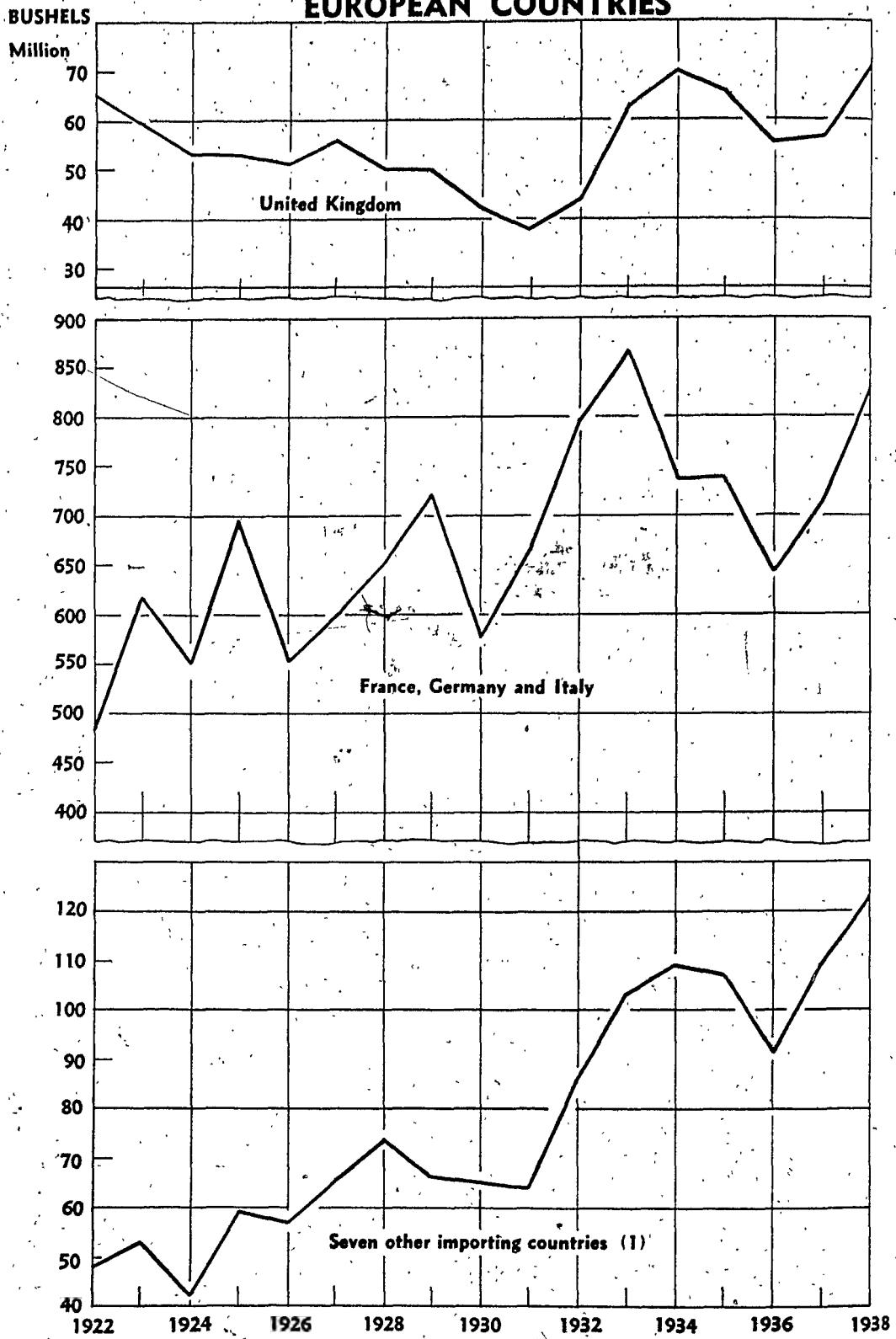


Data from Table 9

(1) For Countries Included See Table 3

Figure 11

WHEAT PRODUCTION IN SPECIFIED EUROPEAN COUNTRIES

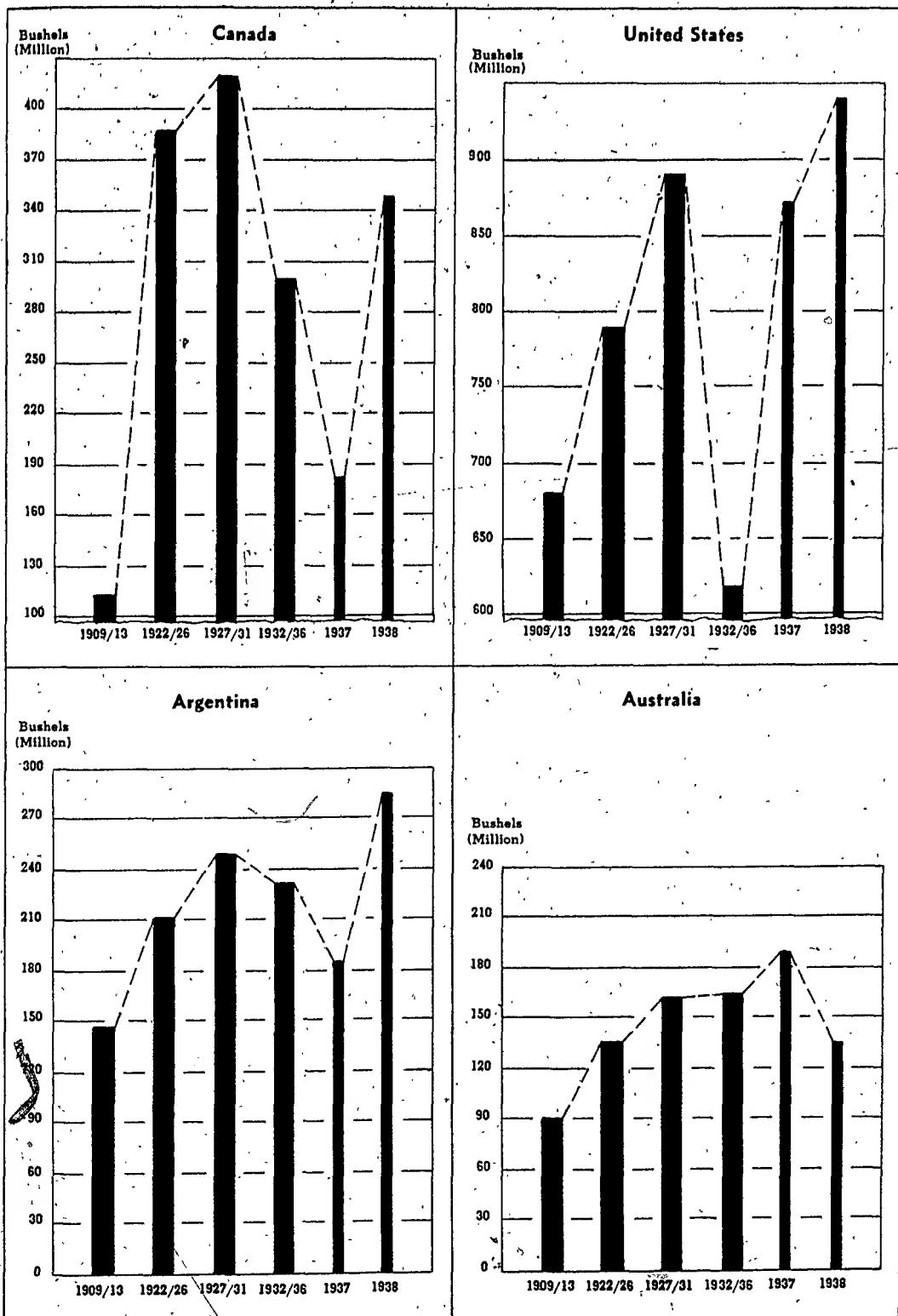


Data from Table 10

(1) Including Belgium, Netherlands, Denmark, Norway, Sweden, Switzerland and Greece.

Figure 12

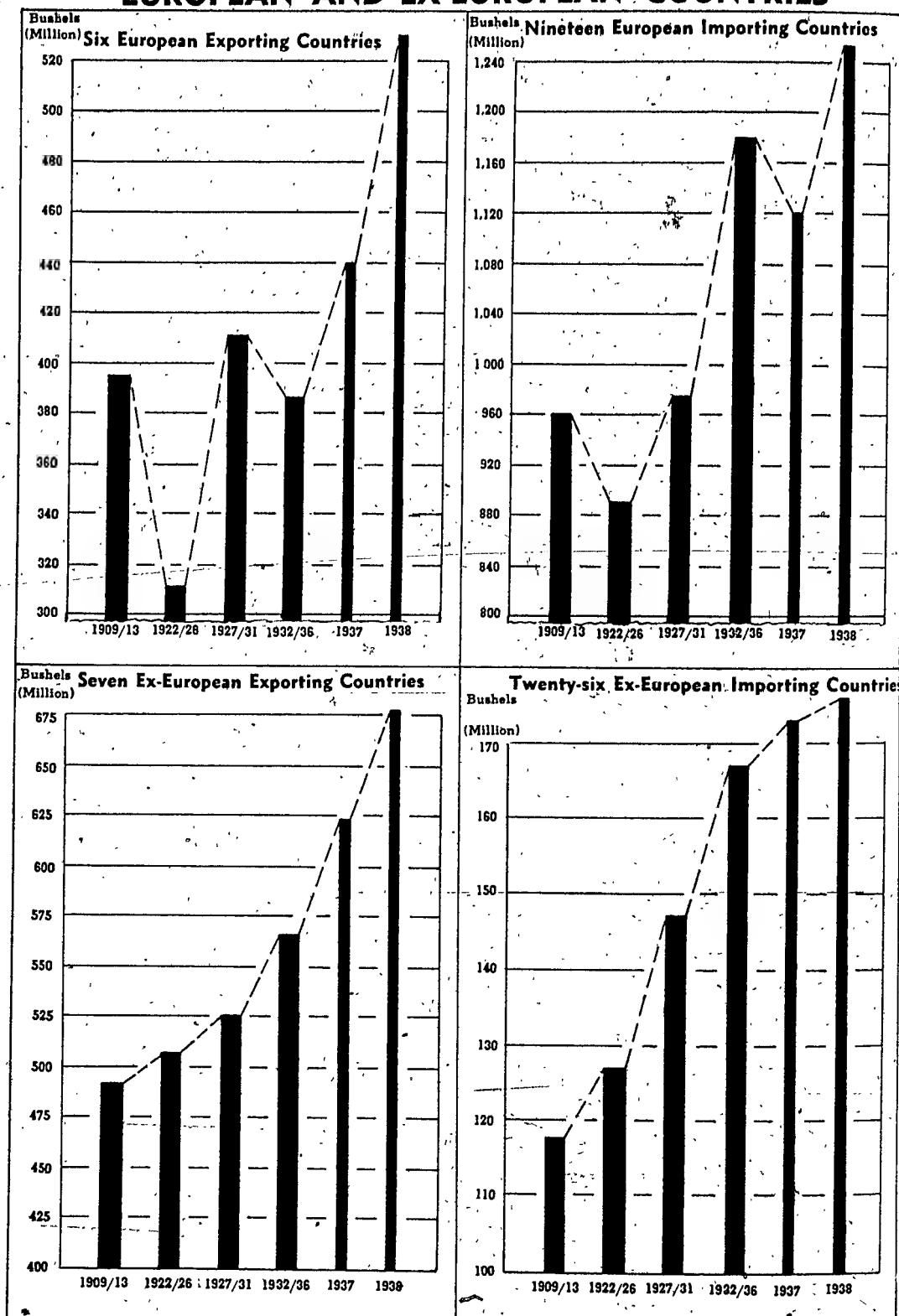
FIVE-YEAR AVERAGE WHEAT PRODUCTION, MAJOR EXPORTING COUNTRIES



Data from Table 8

Figure 13

FIVE-YEAR AVERAGE WHEAT PRODUCTION, EUROPEAN AND EX-EUROPEAN COUNTRIES



Data from table 9

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 11.

WHEAT PRODUCTION AND TRADE OF SOVIET RUSSIA

Years	Acreage (Million acres)	Yield per Acre (Bushels)	Production (Million bushels)	Net Exports (+) (1) OR Net Imports (-)	
				Net Exports (+) (1)	Net Imports (-)
Average 1909-13	74.0	10.2	757	+ 164.2	
" 1922-26	53.9	11.1	596	+ 16.6	
" 1927-31	78.8	10.2	806	+ 36.4	
" 1932-36	88.3	9.9	874	+ 17.2	
1922	35.6	11.0	390	+ 0.6	
1923	45.4	9.9	451	+ 22.1	
1924	54.3	8.8	480	- 16.7	
1925	61.5	12.4	763	+ 27.9	
1926	72.6	12.3	896	+ 48.9	
1927	77.3	10.2	791	+ 2.6	
1928	68.7	11.7	807	- 5.5	
1929	73.6	9.4	693	+ 9.0	
1930	83.4	11.8	988	+ 112.6	
1931	91.1	8.3	752	+ 63.2	
1932	85.2	8.7	743	+ 16.7	
1933	82.0	10.2	839	+ 34.3	
1934	87.2	10.9	948	+ 1.9	
1935	91.7	10.8	990	+ 28.7	
1936	95.2	8.9	850	+ 4.4	
1937	101.3	11.2	1,135	+ 42.8	
1938					

(1) For crop years commencing August 1 of the year indicated and ending on July 31 of the following year.

TABLE 12.

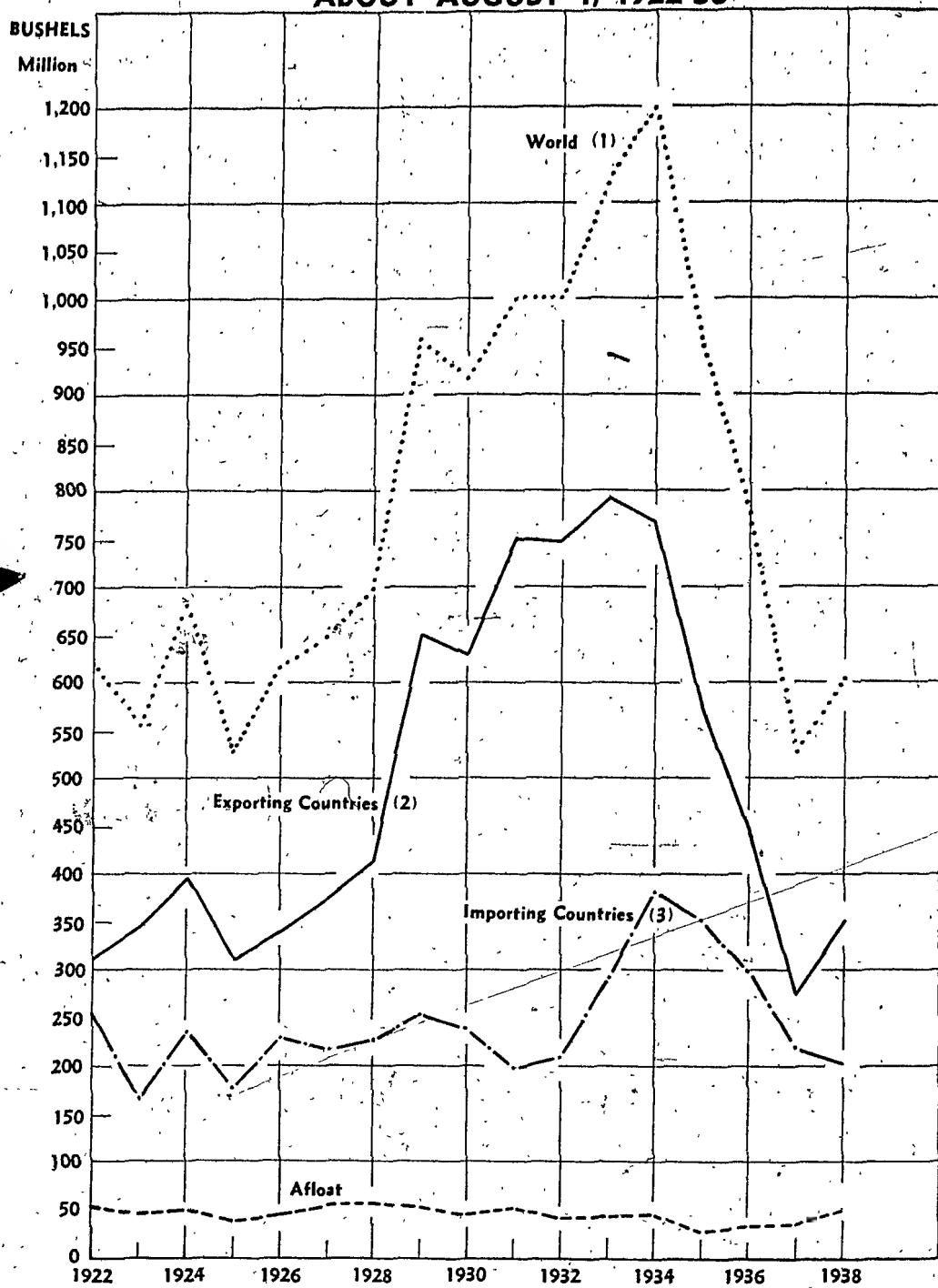
WHEAT PRODUCTION AND TRADE OF CHINA

Including Manchuria (Manchukuo)

Years	Acreage (Million acres)	Yield per Acre (Bushels)	Production (Million bushels)	Net Imports of (1) Wheat and Flour (Million bushels)
Average 1909-13				25.0
1922				17.5
1923				50.9
1924				7.7
1925				25.0
1926				17.4
1927				20.1
1928				49.6
1929				22.3
1930				54.6
1931	52.6	16.2	852	72.1
1932	54.6	16.0	874	71.9
1933	51.6	17.0	879	44.7
1934	50.3	16.9	848	52.1
1935	53.8	15.2	820	22.4
1936	53.2	16.6	883	5.8
1937			669	12.1
1938			651	

(1) For crop years commencing August 1 of the year indicated and ending on July 31 of the following year.

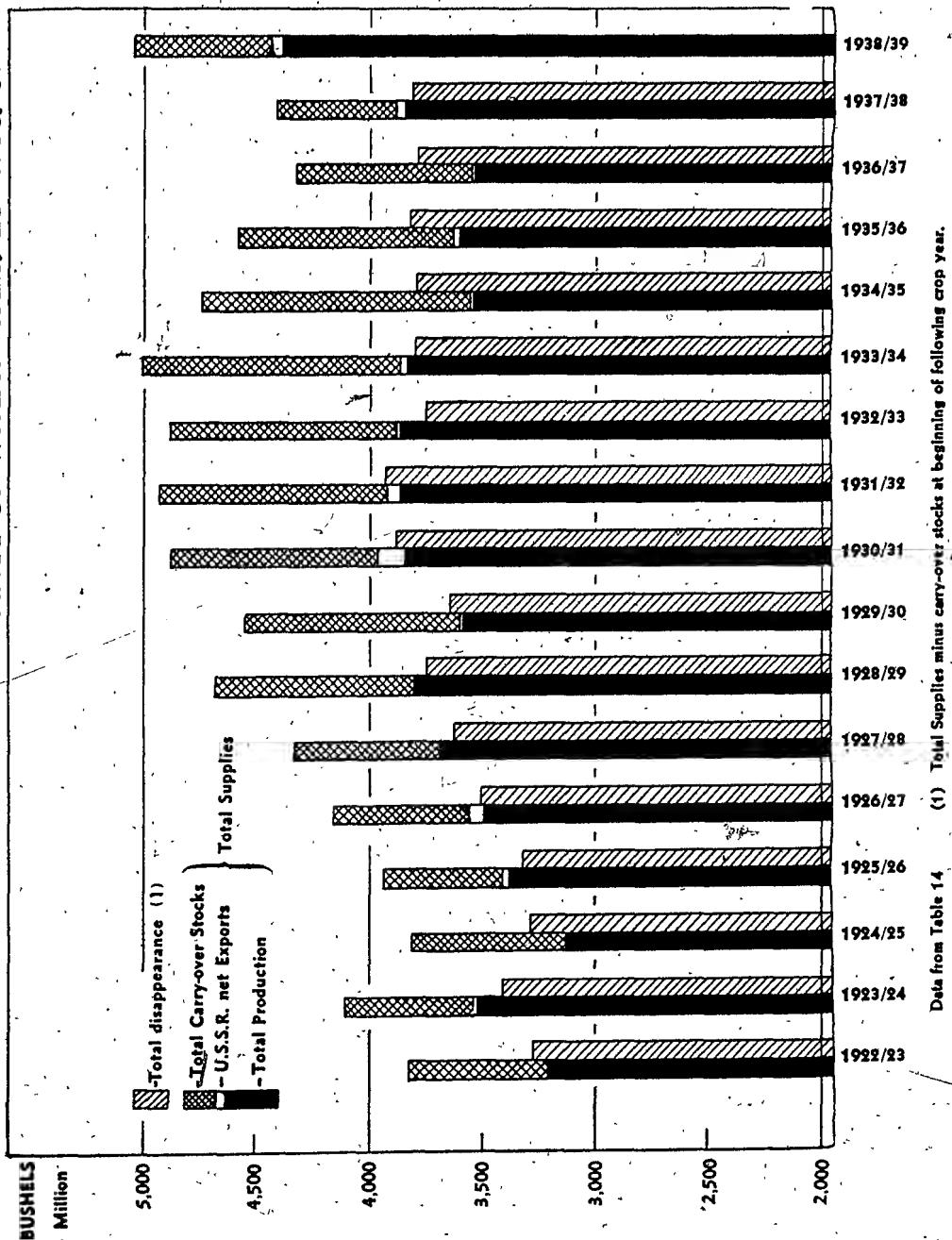
Figure 14
CARRY-OVER STOCKS OF WHEAT,
ABOUT AUGUST 1, 1922-38



Data from Table 13
 (1) Ex-U.S.S.R., and China.
 (2) Including the four major exporters, lower Danube, French North Africa, and India.
 (3) Including Europe ex-Danube, Japan and Egypt.

Figure 15

WORLD SUPPLIES AND DISAPPEARANCE OF WHEAT 1922/23-1938/39



(1) Total Supplies minus carry-over stocks at beginning of following crop year.
Data from Table 14.

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 13

CARRY-OVER STOCKS OF WHEAT, ABOUT AUGUST 1, 1922-38

Year	World	Exporting ⁽¹⁾ Countries	Importing ⁽²⁾ Countries	Afloat
		(Million bushels)		
1922	621	311	256	54
1923	556	344	165	47
1924	683	396	237	50
1925	528	310	179	39
1926	615	339	230	46
1927	647	374	218	55
1928	697	413	227	57
1929	957	649	254	54
1930	915	630	239	46
1931	1,000	750	198	52
1932	999	749	209	41
1933	1,130	793	294	43
1934	1,199	769	384	46
1935	952	571	353	28
1936	776	445	299	32
1937	527	275	218	34
1938	602	352	201	49

(1) Ex-U.S.S.R. and China.

(2) Including the four major exporters, lower Danube, French North Africa and India.

(3) Including Europe ex-Danube, Japan and Egypt.

TABLE 14

WORLD SUPPLIES AND DISAPPEARANCE OF WHEAT, 1922-38

Crop Years Aug.-July)	Total Carry- over Stocks (at beginning of crop year)	Total Production	U.S.S.R. Net Exports	Total Supplies	Total ⁽¹⁾ Disappear- ance
			(Million bushels)		
1922-23	621	3,204	1	3,826	3,270
1923-24	556	3,519	22	4,097	3,414
1924-25	683	3,127	—	3,810	3,282
1925-26	528	3,380	28	3,936	3,321
1926-27	615	3,494	49	4,158	3,511
1927-28	647	3,673	3	4,323	3,626
1928-29	697	3,996	—	4,693	3,736
1929-30	957	3,584	9	4,550	3,635
1930-31	915	3,847	113	4,875	3,875
1931-32	1,000	3,865	63	4,928	3,929
1932-33	999	3,865	17	4,881	3,751
1933-34	1,130	3,835	34	4,999	3,800
1934-35	1,199	3,543	2	4,744	3,792
1935-36	952	3,601	29	4,582	3,806
1936-37	776	3,540	4	4,320	3,793
1937-38	527	3,844	43	4,414	3,812
1938-39	602	4,397	40 ⁽²⁾	5,039	—

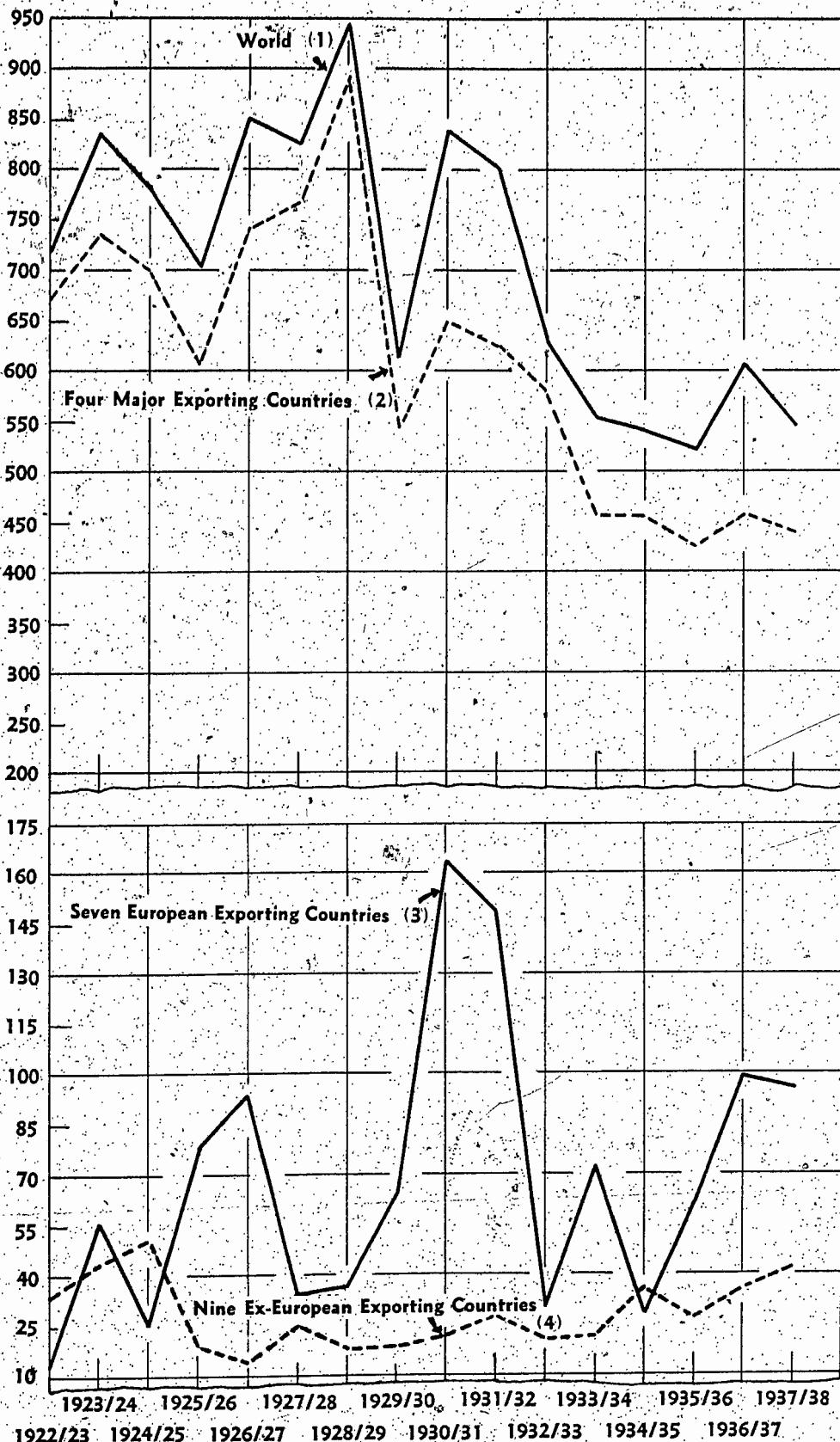
(1) Total supplies minus carry-over stocks at beginning of following crop year.

(2) Estimated.

Figure 16

BUSHELS
Million

NET EXPORTS OF WHEAT AND WHEAT FLOUR



Data from Table 15

(1) Including net exports from normally importing countries when these have occurred.

(2) Canada, United States, Argentine and Australia.

(3) Bulgaria, Hungary, Rumania, Yugoslavia, Poland, Lithuania and U.S.S.R.

(4) India, Algeria, French Morocco, Tunisia, Turkey, Chile, Uruguay, Irak and Iran.

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 15
NET EXPORTS OF WHEAT AND WHEAT FLOUR

Crop Years (Aug.-July)	World ⁽¹⁾	Four Major ⁽²⁾ Exporting Countries	European Exporting Countries	Seven ⁽³⁾ Ex-European Exporting Countries
		(Million bushels)		
Average 1909-10 1913-14}	686	345	(278)	60
" 1922-26	777	691	53	32
" 1927-31	805	696	90	22
" 1932-36	571	476	58	28
1922-23	718	672	13	34
1923-24	835	735	56	44
1924-25	779	700	25	51
1925-26	702	605	78	19
1926-27	852	741	94	14
1927-28	827	768	35	25
1928-29	946	891	37	18
1929-30	613	543	64	19
1930-31	838	651	164	22
1931-32	802	626	149	28
1932-33	631	580	30	21
1933-34	555	457	72	22
1934-35	541	456	29	36
1935-36	523	426	62	27
1936-37	607	459	99	36
1937-38	546	399	96	42

(1) Including net exports from normally importing countries when these have occurred.

(2) Canada, United States, Argentina and Australia.

(3) Bulgaria, Hungary, Rumania, Yugoslavia; Poland, Lithuania and U.S.S.R.

(4) India, Algeria, French Morocco, Tunisia, Turkey, Chile, Uruguay, Irak and Iran.

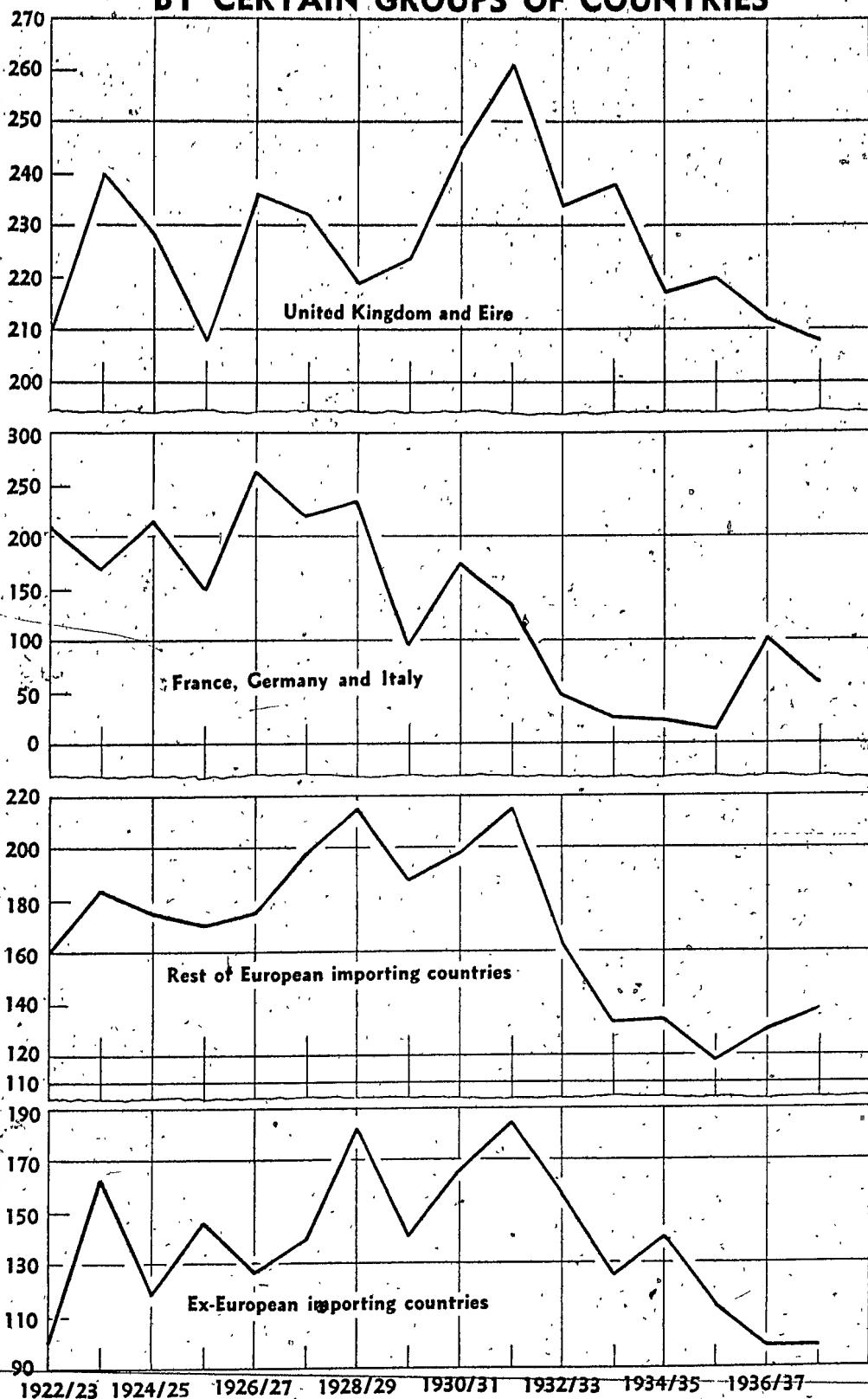
TABLE 16
NET IMPORTS OF WHEAT AND FLOUR BY CERTAIN GROUPS OF COUNTRIES

Crop Years (Aug.-July)	United Kingdom and Eire	France, Germany, Italy	Rest of European Importing Countries	Ex-European Importing Countries
		(Million bushels)		
Average 1909-10 1913-14}	218	(164)	163	101
" 1922-26	224	201	173	131
" 1927-31	236	172	203	162
" 1932-36	224	42	136	127
1922-23	210	209	160	101
1923-24	240	169	184	163
1924-25	228	215	175	119
1925-26	208	150	170	146
1926-27	236	263	175	127
1927-28	232	220	198	139
1928-29	219	233	215	182
1929-30	224	96	188	140
1930-31	245	174	198	166
1931-32	261	135	215	184
1932-33	234	48	163	157
1933-34	238	26	133	126
1934-35	217	22	134	139
1935-36	220	13	118	114
1936-37	212	102	130	98
1937-38	208	59	138	98

BUSHELS
Million

Figure 17

NET IMPORTS OF WHEAT AND FLOUR BY CERTAIN GROUPS OF COUNTRIES

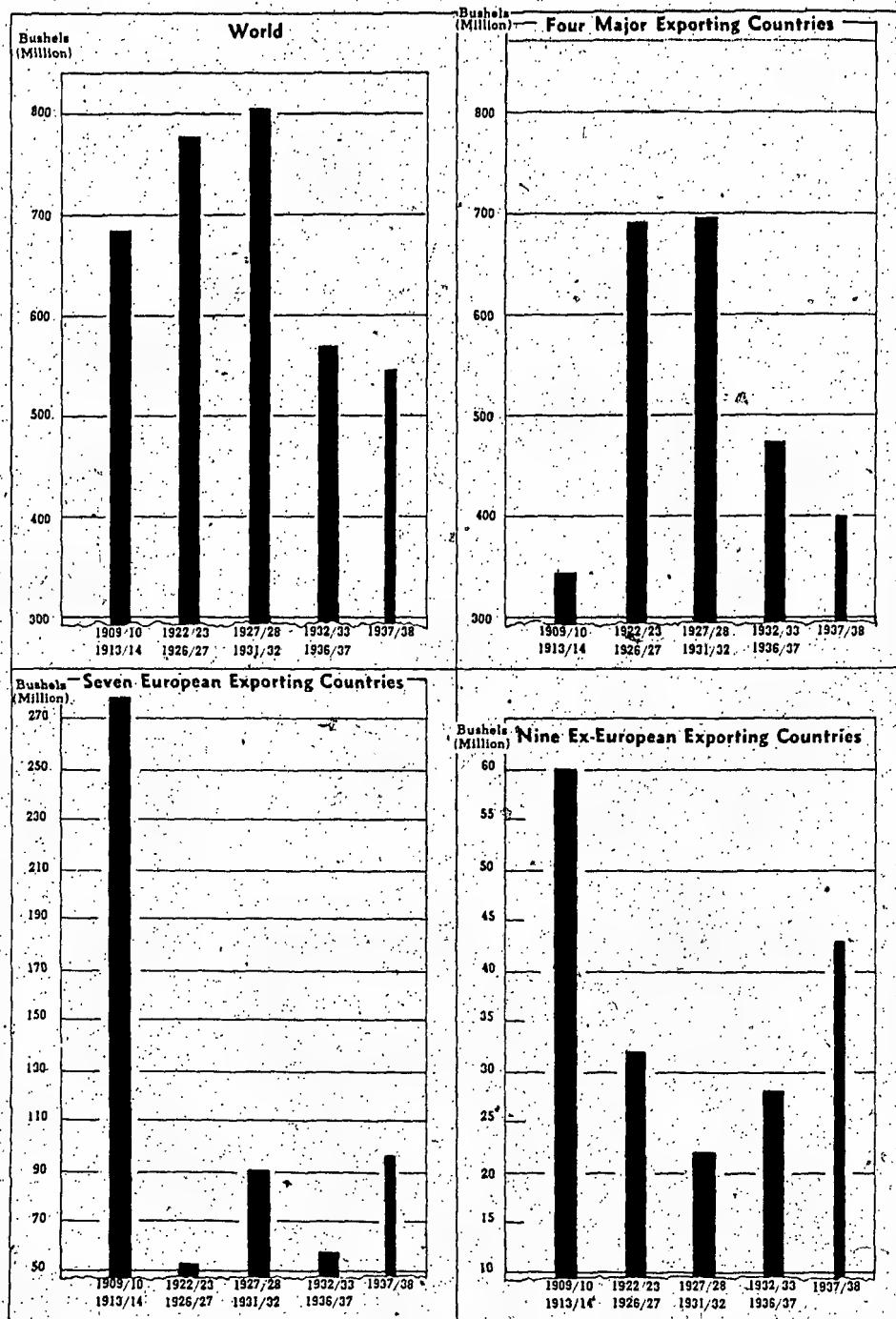


Data from Table 16

1937/38

Figure 18

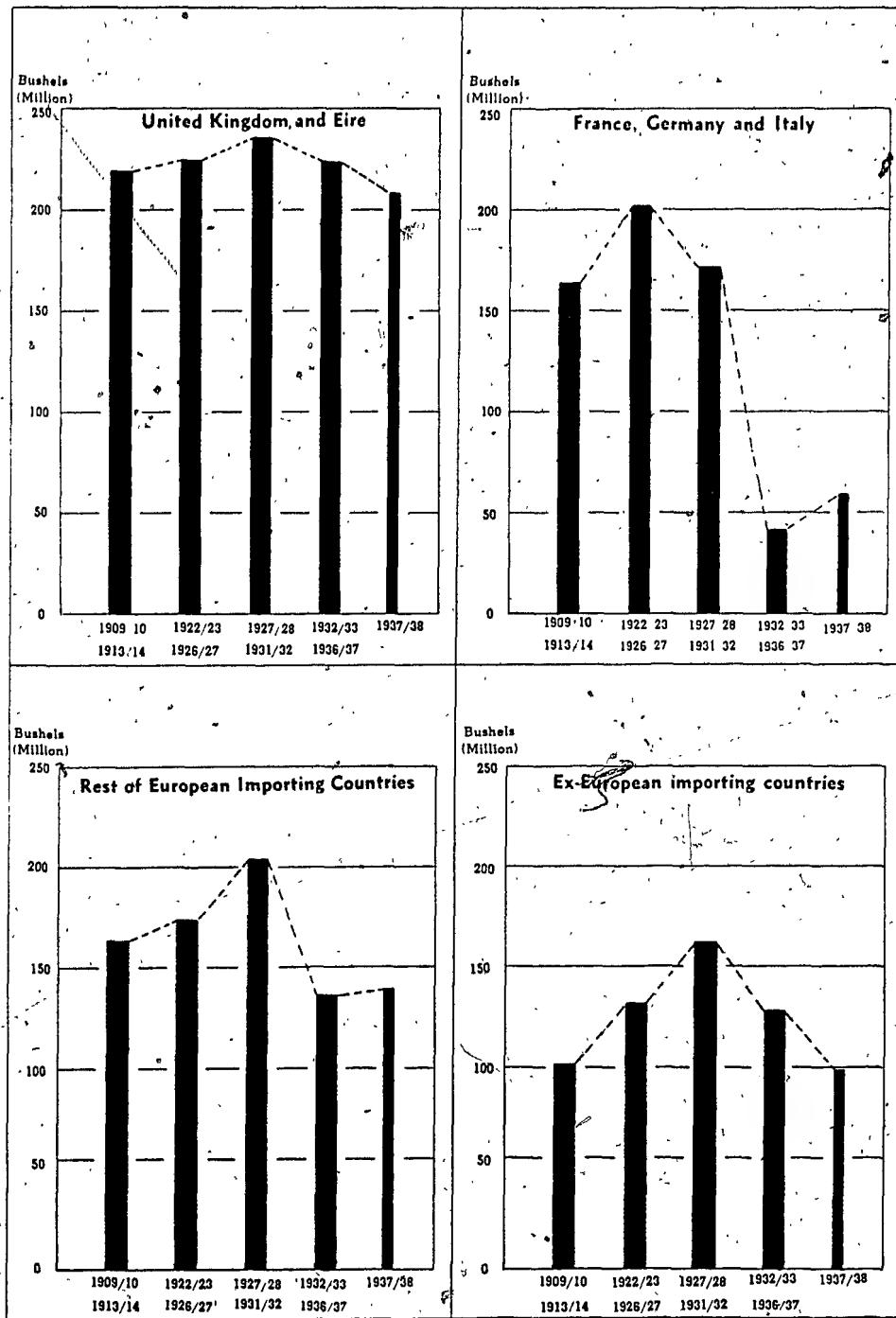
FIVE-YEAR AVERAGE NET EXPORTS OF WHEAT AND FLOUR



Data from table 15

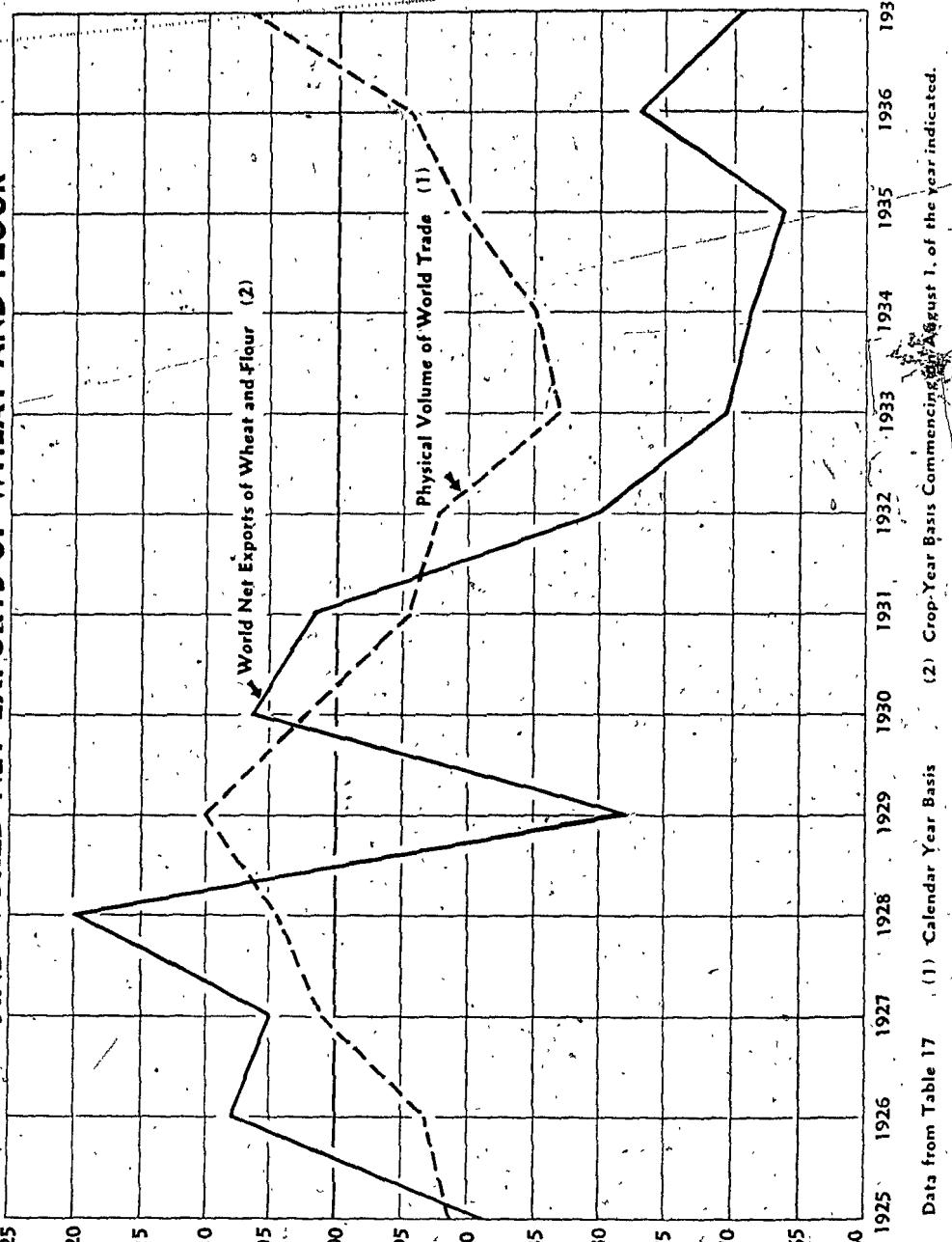
Figure 19

FIVE-YEAR AVERAGE NET IMPORTS OF WHEAT AND FLOUR



Data from Table 16

Figure 20
**INDEXES OF THE PHYSICAL VOLUME OF WORLD TRADE
 AND WORLD NET EXPORTS OF WHEAT AND FLOUR**

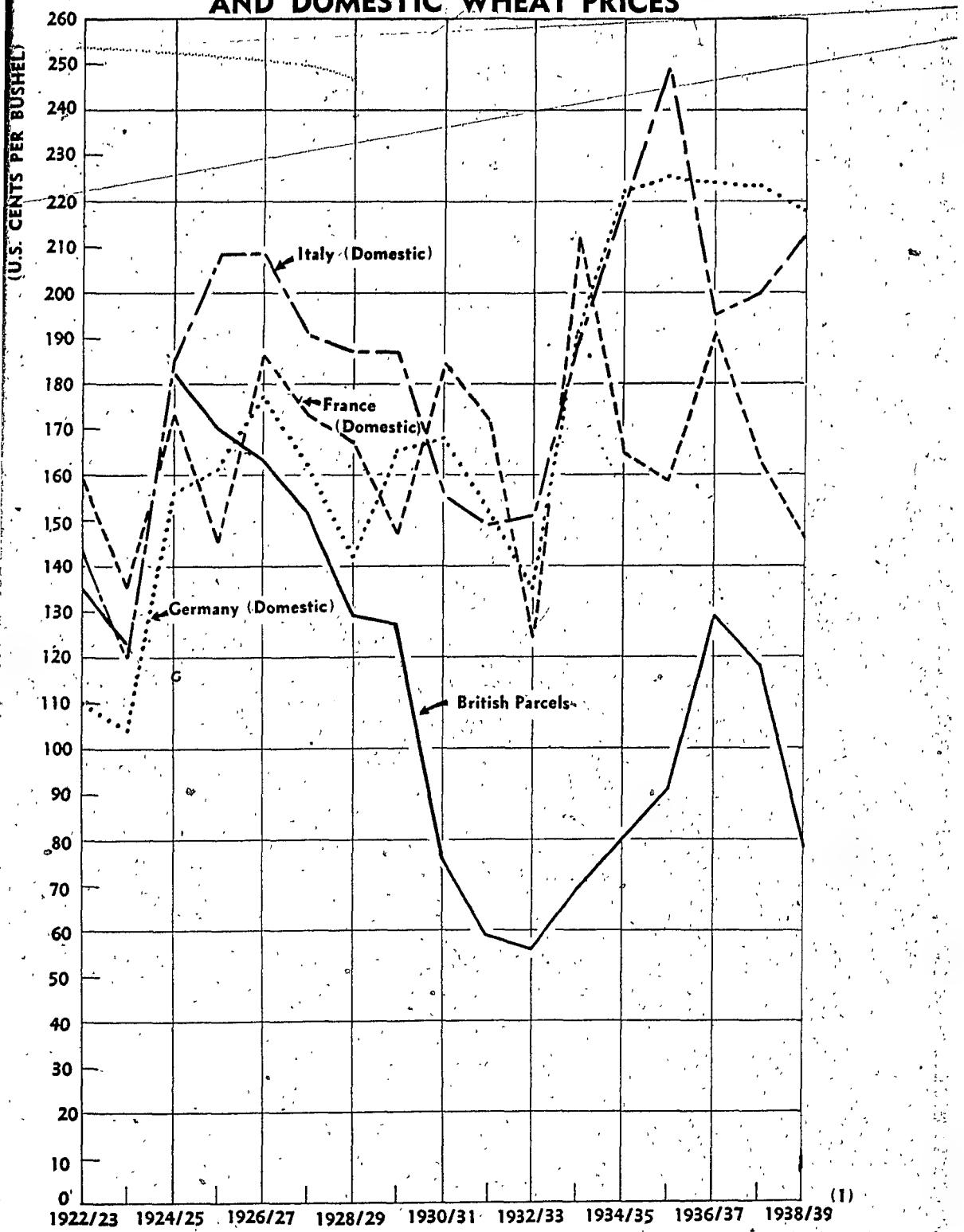


Data from Table 17 (1) Calendar Year Basis

(2) Crop-Year Basis Commencing August 1, of the year indicated.

Figure 21

SELECTED EUROPEAN OPEN MARKET AND DOMESTIC WHEAT PRICES



Data from Table 18

(1) August—November 1938

MARKETS FOR WESTERN FARM PRODUCTS

TABLE 17
INDEXES OF THE PHYSICAL VOLUME OF WORLD TRADE
— and —
WORLD NET EXPORTS OF WHEAT AND FLOUR

Year	Physical Volume of World Trade ⁽¹⁾ 1925-29=100	World Net Exports of Wheat and Flour ⁽²⁾ 1925-26-1929-30=100
1925	91.2	89.1
1926	93.4	108.1
1927	101.1	104.9
1928	104.4	120.1
1929	109.9	77.8
1930	102.2	106.3
1931	94.5	101.8
1932	92.3	80.1
1933	83.0	70.4
1934	84.8	68.7
1935	90.4	66.4
1936	94.4	77.0
1937	106.5	69.3

(1) Calendar year basis.

(2) Crop year basis, commencing on August 1 of the year indicated.

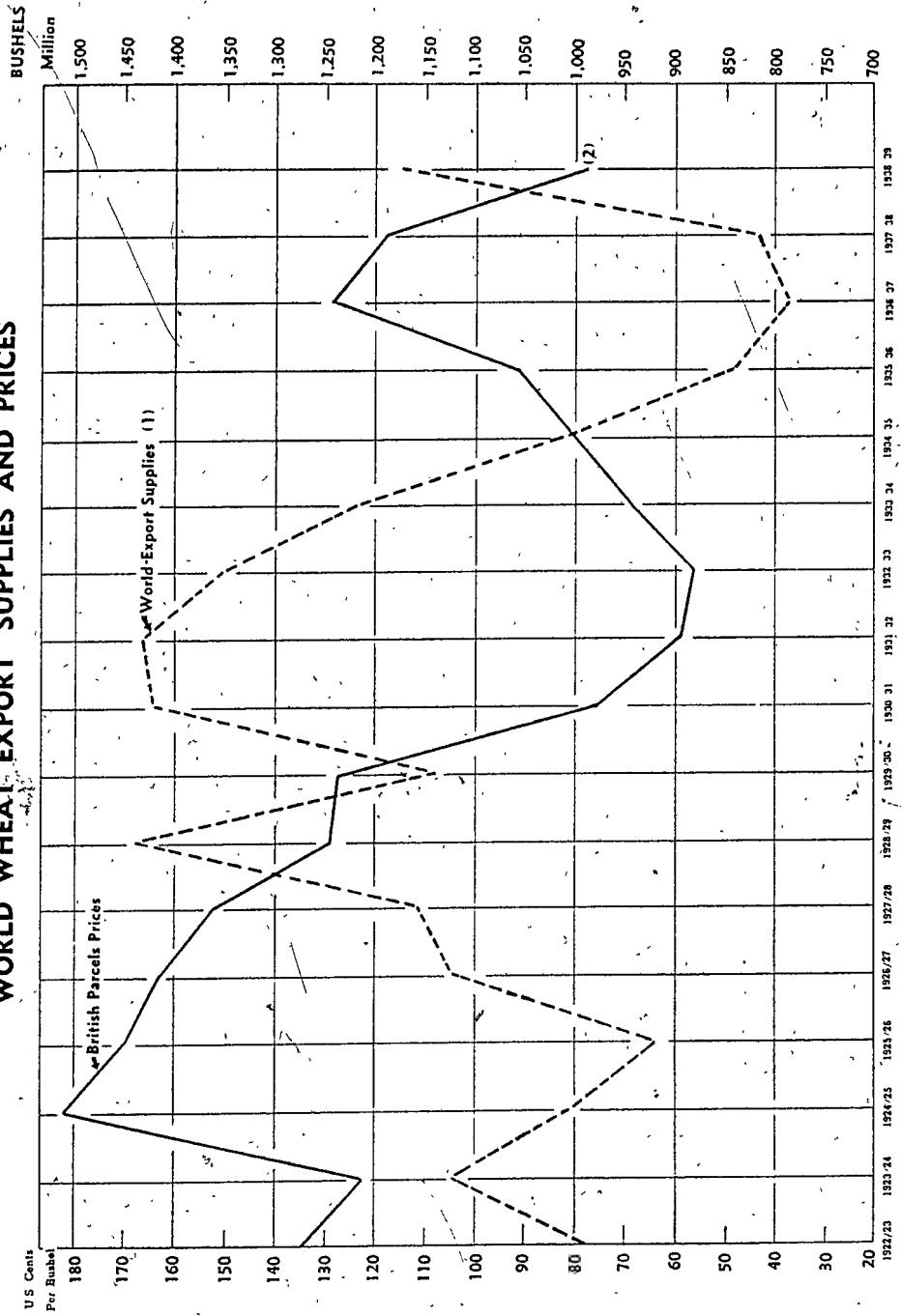
TABLE 18
SELECTED EUROPEAN OPEN MARKET AND DOMESTIC WHEAT PRICES

Years	United Kingdom No. 3 Manitoba (C.I.F. Liverpool)	British Parcels	France	Germany	Italy
			(Domestic)	(Domestic)	(Domestic)
Average 1909-10 {		(108)	142	135	150
1913-14 }					
1922-23	131	135	159	110	143
1923-24	119	123	135	104	120
1924-25	181	182	173	156	185
1925-26	168	170	145	161	208
1926-27	164	163	186	177	208
1927-28	154	152	173	162	191
1928-29	138	129	167	142	187
1929-30	137	127	147	165	187
1930-31	77	76	184	168	156
1931-32	62	59	172	152	149
1932-33	58	56	124	135	151
1933-34	77	69	212	191	189
1934-35	88	80	165	222	220
1935-36	95	91	159	225	249
1936-37	136	129	191	224	195
1937-38	137	118	163	223	200
1938-39 ⁽¹⁾	78	78	146	218	212

(1) August-November, 1938.

WORLD WHEAT EXPORT SUPPLIES AND PRICES

Figure 22



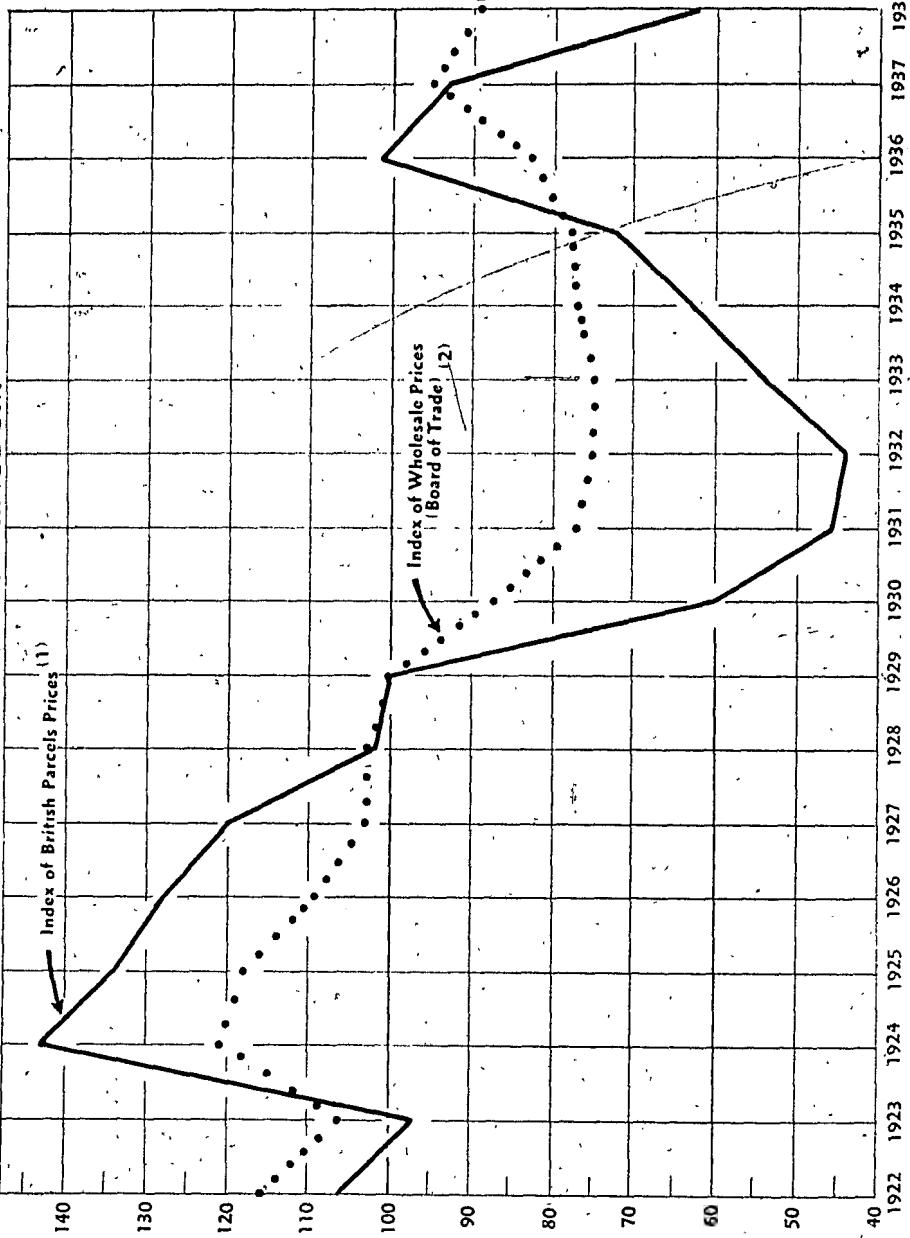
(1) Available supplies for export or carry-over in the four major exporting countries plus net exports of the remaining exporting countries.

(2) August — November 1938.

Data from table 19

Figure 23

INDEXES OF BRITISH PARCELS PRICES AND GENERAL WHOLESALE PRICES IN THE UNITED KINGDOM



Data from Table 20
 (1) Crop year basis, commencing on August 1 of the year indicated
 (2) Calendar year basis
 (3) August-November, 1938
 (4) January-September, 1938

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TABLE 19
WORLD WHEAT EXPORT SUPPLIES AND PRICES

Crop Years	British Parcels (U.S. cents per bushel)	World Export ⁽¹⁾ Supplies (Million bushels)
1922-23	135	989
1923-24	123	1,122
1924-25	182	997
1925-26	170	918
1926-27	163	1,122
1927-28	152	1,157
1928-29	129	1,440
1929-30	127	1,139
1930-31	76	1,422
1931-32	59	1,427
1932-33	56	1,351
1933-34	69	1,219
1934-35	80	1,012
1935-36	91	841
1936-37	129	785
1937-38	118	818
1938-39	78 ⁽²⁾	1,175

(1) Available supplies for export or carry-over in the four major exporting countries plus net exports of the remaining exporting countries.

(2) August-November, 1938.

TABLE 20
INDEXES OF BRITISH PARCELS PRICES AND GENERAL WHOLESALE
PRICES IN THE UNITED KINGDOM

Year	Index of British Parcels Prices ⁽¹⁾	Index of Wholesale Prices ⁽²⁾
		(Board of Trade) 1929—100
1922	106.3	116.1
1923	96.9	116.1
1924	143.3	121.2
1925	133.9	116.1
1926	128.3	108.5
1927	119.7	103.7
1928	101.6	102.8
1929	100.0	100.0
1930	59.8	87.5
1931	46.5	76.8
1932	44.1	74.9
1933	54.3	75.0
1934	63.0	77.1
1935	71.7	78.2
1936	101.6	82.7
1937	92.9	95.2
1938	61.4 ⁽³⁾	89.6 ⁽⁴⁾

(1) Crop year basis, commencing on August 1 of the year indicated.

(2) Calendar year basis.

(3) August-November, 1938.

(4) January-September, 1938.

THE CHAIRMAN: Instead of proceeding with the discussion of this paper at this time we propose to hear the next paper by Mr. Griffin, and afterwards the discussion on both papers may proceed. Before we call on Mr. Griffin I want on your behalf to thank Dr. Wilson for what I conceive to be the fullest and most thorough exposition of the world wheat situation as it is today and as it has developed in the past 17 years, that it has ever been my privilege to hear. We have had very generous co-operation from every public body and every commercial organization that we have had anything to do with in connection with this conference. That applies to business organizations, financial interests, industrial interests, agricultural interests in the East and West, also the organizations connected with the grain trade, the North West Grain Dealers' Association, the United Farmers, the United Grain Growers, and the Pools. I want at this time to thank them all for the co-operation they have given.

The United Grain Growers Limited have had in their service for the last 16 or 18 years as head of their Research Department, Mr. H. L. Griffin. They very kindly loaned Mr. Griffin's services to us on this occasion, and he will now present to you "An Appraisal of the Canadian Wheat Situation."

AN APPRAISAL OF THE CANADIAN WHEAT SITUATION

by

H. L. GRIFFIN

RESEARCH DEPARTMENT, UNITED GRAIN GROWERS LIMITED

MR. PREMIER: LADIES AND GENTLEMEN:

The conference has had ably put before it by Dr. Wilson the wheat situation from a world standpoint. This paper has now to deal with wheat from the standpoint of western Canada.

From that standpoint the wheat situation presents itself as a question mark. Can we sell, where can we sell, and what should we do about selling the wheat we expect to grow in the future? True, there has been sold all western wheat produced in the past, and, equally true we have lately been selling wheat abroad at a very substantial rate. But for five successive years western production was small, due to a cycle of drought years, which we hope will not recur. While that was happening, world wheat trade was shrinking, and some of Canada's competitors for it were enlarging their wheat acreage. In the past we have had occasion to be concerned about production, about government regulation of handling and grading grain, and about the machinery of marketing. Now our essential problem is that of markets.

But to get our perspective right, let us note that if we are disturbed about maintaining a satisfactory place in the world's wheat market, no one outside of Canada is currently concerned about our ability to do so. The "world" this year (leaving out as is usual in quoting figures, Russia, China and some minor areas) has produced about 4,400 million bushels of wheat. Of that Canada produced about eight per cent. If Russia's production were included in the total, Canadian production would be about seven per cent. The total is estimated to be about 500 million bushels more than will be consumed this year, while Canada's production was about 350 million bushels. Thus, without the production of a single bushel in Canada the world would have had all the wheat it is likely to use this year. During several recent years the world produced less wheat than it consumed, and consequently used up previously accumulated supplies. But even then it could have got along without Canadian wheat. Reserves could have been further encroached upon, or there could have been diverted to human use some small fraction of the corn and

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other grain used for live stock feed. Few people outside of this country, unless because their sales of goods to Canada fell off, or unless they were concerned about investments in Canada, would have bothered about Canada's absence from the international wheat market.

Continental Europe seeds annually to wheat about three times the wheat area of western Canada, and this year produced as much wheat as Canada has produced in six years. The United States for the past two years has had something more than three times Canada's wheat acreage. Italy, during the past six years has produced more wheat than Canada, and France in five years produced as much as Canada in six years.

To mention another grain, Argentina, Canada's principal competitor in the wheat market, exports much more corn than wheat, and has been known for a period of weeks to make corn shipments in excess of the combined export wheat shipments of the whole world. Various European countries import considerably more corn than they do of wheat; and the international trade in corn is larger than in pre-war days, although the trade in wheat is smaller.

After we have thus established our perspective we can, with less danger of misleading ourselves, recall that Canada is usually the world's principal exporter of wheat, and has frequently furnished more than forty per cent of the wheat moving in international trade. The top grades of Canadian wheat usually command a higher price on the Liverpool market than any other wheats. In spite of such higher prices the international market absorbs more of it than of any other exported wheat, and is currently doing so.

We have then, a product of special merit which customers have been glad to buy, but a product nevertheless which they can do without. We have an advantage over our competitors, but none over our customers.

Our next thought must be the absolute necessity to western Canada of a large export wheat trade if this section of the Dominion is to maintain itself. Western Canada's agriculture is an export agriculture. The country has been developed on export markets and could survive only on the basis of such markets. It has been built on wheat, because all things considered, the country as a whole is better adapted to wheat growing than to any other agriculture, and because wheat gave it the opportunity to develop. On what scale then, do we require to export wheat to correspond without expectations of production? What volume of export trade will enable the 300,000 farmers of western Canada to carry on their operations without restriction, and the Prairie provinces to continue to be the home of 2,500,000 people? We can answer that after a brief survey of wheat acreage and production in the West.

About the beginning of the present century Canada's national policy of opening up the West began to be effective to an important extent. Large scale immigration was encouraged. Hundreds of millions of dollars of public and private funds were invested in western Canada. Wheat made that development possible.

In 1900 there were 2,500,000 acres of wheat in western Canada, or about one-tenth of the present acreage. By 1914 that had grown to 10 million acres, and in 1918 to 16 million acres. The ten years following the armistice saw another seven million added to western wheat acreage, which continued to expand until it exceeded 26 million acres in 1932. A decline since then has probably stabilized our wheat area at about 25 million acres. There appears to be no reason to anticipate any important change from that level.

As to expected yields, we have seen a high of 26 bushels to the acre in 1915 and a low of 6.5 bushels to the acre in 1937. In the five-year period which ended in 1915 average yields were 20 bushels to the acre. For the five years which ended in 1937 they were 9.5 bushels to the acre. We can dismiss hopes of again seeing yields such as the largest mentioned, either for one year or for a five-year period. That is because, with the increase of our wheat acreage, it has spread itself over a vast area and into districts where wheat was not grown in the earlier period.

Meteorological conditions which produced highly favorable weather for the limited wheat acreage of the earlier years would almost certainly prove unfavorable over part of the present larger area. Equally, we discard expectations that yields will again be so low as experienced in the five-year period ended in 1937. It took both a drought cycle and heavy rust damage to bring about such low average yields. It is the belief, or at least the hope, in western Canada, that while dry years will inevitably recur, a series of continued droughts is unlikely. Rust appears to have been conquered by the introduction of resistant varieties. Reasonable expectation over a five-year period is for annual yields of from 15 to 16 bushels to the acre, or for annual crops in western Canada of from 375 to 400 million bushels of wheat. About 20 million bushels are annually produced elsewhere in Canada. With Canadian consumption of probably 125 million bushels the West is farming on a scale that anticipates the annual export of from 250 to 275 million bushels.

Without continued production of wheat on such a scale, and without exports to make it possible, the West cannot continue to support its present population. We have other agriculture, and we have other industries, but they form part of an economic fabric, the strength of which depends upon wheat. There is no other corresponding area and no other corresponding population in the world so dependent upon export trade in wheat. There can be no other people so firmly determined as those of western Canada to maintain such a trade, as a matter of sheer existence. Nor, since a quarter of the country's population is affected, is there any other country in the world so vitally concerned with the export wheat trade as is Canada. Is then such a scale of export reasonably possible?

In the five-year period ended in 1930, average annual international wheat trade was 789 million bushels, of which Canada contributed an average of 308 million bushels, or 39 per cent. In the five-year period ended in 1936 average annual world wheat exports were 584.6 million bushels with Canada's share 216.7 million bushels, or 36 per cent. In 1936-37, Canadian exports were 195 million bushels and in 1937-38 only 80 million bushels. (Owing to short crops that was all we had to spare and the former wheat surplus was practically cleaned up). One published estimate this year credits Canada with probable exports of 140 million bushels out of a world trade of 540 millions, or only 26 per cent. All three of these figures are probably low, but it is unlikely that Canada will dispose in the crop year of the 200 million bushels which would represent a satisfactory export from the production of 1938.

So to the question as to whether or not we can export wheat on a scale commensurate with our farming operations we can make a preliminary answer. Certainly not, if conditions which govern world wheat trade, and those include world acreage, world weather, world political conditions, international trade generally, and world economic conditions, are going to repeat those of 1938. But there are changes reasonably to be expected and reasonably to be hoped for in all these factors, and there is room for important Canadian effort. We can give a qualified yes to the question by assuming such changes and also assuming deliberate Canadian effort to bring about such trade, as will appear upon examination in detail.

The existence of a wheat problem, and of an agricultural problem generally in the world, is not because too much food is being produced. On the contrary, a very large part of the world's population subsists in hunger or on a diet less than adequate for health and efficiency, and would gladly buy more and better food if it could pay for it, or if not denied access to such food. Energy foods such as starches and sugars, while less than total needs, are comparatively the most abundant. Fats are greatly deficient in large areas, especially in Continental Europe. Body building foods, such as milk, meat and eggs, are available to comparatively few people in the quantities they desire or could use to advantage. The Nutrition Committee of the League of Nations is endeavoring to get such facts recognized, and Sir John Orr has dealt with the subject in a book on the British diet. It would take a comparatively small increase in the standard of living to absorb all the energies of the world's food producers, the production of all the acres devoted to

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agriculture. Difficulties with wheat are in large part due to the fact that many acres and many men are absorbed in producing wheat instead of other foods, as would be the case with a comparatively slight improvement in political and economic conditions.

Quite apart from acreage changes which economic improvement might effect, there are some important declines in prospect in various countries, to which reference will be made. As to world weather, it was in 1938 unusually favorable for wheat. As a result, for the second time in history the world has produced in a single year considerably more wheat than a year's consumption. Much of the present world wheat acreage lies in areas of great variability in weather and production. Under certain conditions large surpluses can be produced. On the other hand, unfavorable weather can result in deficiency, as occurred in three successive years from 1935 to 1937.

And now for some detailed consideration of the markets where we must sell our wheat. These lie primarily in western Europe, including the British Isles. For wheat discussion we must distinguish sharply between eastern and western Europe. The dividing line runs along the eastern boundary of Italy, and of Germany as that boundary has lately been established, and has to be extended north to include Scandinavia and Finland in western Europe. At the southern end it has to be swung east, to include Greece in the western area. East of that line is a European population of nearly 100 million people who produce a surplus of grains for export. West of it is a population of about 300 million people who require imported grains in varying quantities.

THE BRITISH MARKET

The British Isles import about 225 million bushels of wheat annually, slightly more than three-quarters of their total consumption. Canada in recent years has had a share in that market ranging from 25 per cent to 50 per cent or over, or very slightly under 50 million bushels to something over 100 million bushels. Canadian wheat is valued because of its strength, which lies in the quantity and quality of its gluten content. It is the gluten which enables dough to hold the gas bubbles formed by fermenting yeast, and to make a large and well shaped loaf. Canadian wheat to a marked extent has the ability to contribute strength to a flour in which weaker wheats are employed. Only in Scotland is there much use of flour made exclusively from Canadian wheat. Elsewhere a weaker flour sufficiently meets the demands of bakers and the taste of consumers. Argentine wheat is classed as "filler wheat," with sufficient strength to carry itself in a milling mix, while weak wheats, such as British and Australian, require to be used for bread flour along with some proportion of Canadian or similar wheat. While British millers always want some Canadian wheat, their use of it in quantity is usually a matter of relative price. Maintenance of a satisfactory share of the British market depends both on price and on a sustained demand for a high grade flour by bakers, and from consumers for bread made from such flour. Canadian wheat does not compete in the large British market for pastry and biscuit flours. For them its strength, so important in bread, is considered a disadvantage as compared with Australian wheat. Canada should find it possible to maintain an annual trade in the British market of 100 million bushels, but probably not much more under ordinary conditions. That applies to the higher grades of wheat. In the use of low grade wheat for live stock feeding there is room for large expansion, as Great Britain imports feed grains heavily, including 170 million bushels or more of corn.

It is in western Continental Europe that former great Canadian wheat markets have been lost. There are to be found the high tariffs, the milling quotas, the exchange controls and other restrictions, which have so much cut down wheat trade in recent years. But it is also in western Continental Europe that Canada must mainly look for a market for export wheat, and where she must seek to dispose of the greater part of the 150 million bushels she wants to sell annually, besides what may be sold in the British Isles. The causes which impelled various European countries to embark on their wheat policies are to be discussed later before this conference. But there is one dominant fact which is in the way of European wheat

buying at present. The lack of foreign exchange, the sheer inability to pay for any imports not absolutely necessary, now keeps various countries from importing wheat which they could use to advantage and which we should like to sell to them. The most important reductions have occurred in Italy, France and Germany, the combined imports of which, formerly nearly 200 million bushels annually, have at least once been as low as 18 million bushels. None of them, in spite of desperate attempts, has quite reached self-sufficiency in wheat, although each has got along without imports for one or several years.

GERMANY

German wheat production, approximately 152 million bushels annually in pre-war days, has been increased to a recent average of 177 million bushels, with this year's yield, highly favored by weather, amounting to 214 million bushels. The rye crop is likely to be about twice the size of the wheat crop. Germany consumes potatoes to a tremendous extent, putting into that crop about a million more acres than into wheat, and producing in a single year from 1,500 million to close to 2,000 million bushels. Some of that supply is used to manufacture alcohol, and some is fed to live stock, but the per capita consumption of potatoes is probably greater than in any other country in the world. In pre-war years, and subsequent to the war, up until 1927, Germany annually imported from 60 to 80 million bushels of wheat. Commencing in 1928, she began to check wheat imports by various measures. Germany at present is literally unable to pay for food imports on a scale required by the needs of her people, or to allow her soil to be used for production of sufficient quantities of the more expensive foods. But in spite of intensive efforts, Germany has not been self-sufficient in food, and her deficiency will be greatly increased by the incorporation of the populations, mainly urban, of Austria and the Sudeten area of Czechoslovakia. In 1937-38 Germany and Austria combined required imports of 45 million bushels of wheat, 10 million bushels of rye, and 70 million bushels of corn. There are now 80 million people in Germany, and there can be no doubt that the population now has a diet badly deficient, particularly in milk, eggs, meat, butter and other high grade foods. Those foods will be only available with the diversion of some acreage now in potatoes and cereals to other uses; and with much increased import of wheat and feed grains. Such a change will be entirely dependent upon German ability to pay for such imports by the export of manufactured goods. If the wheat trade of the world is again to be restored to satisfactory proportions one essential step must be the bringing of the vast industrial population of Germany once more into contact with the channels of world trade. No criticism of political developments in Germany, no dislike of economic, political or social theories that may be there practised, should blind us to the fact that the greatest opportunity for improvement in Canadian wheat trade is to be found in Germany. Canadian wheat is especially valuable there because of the soft nature of German wheat.

ITALY

Italy before the war used to import about 50 million bushels of wheat annually. About ten years ago, with a population of 42 million people, or seven million more than in pre-war days, she imported from 70 to 90 million bushels to give a total wheat supply along with domestic production, of about 300 million bushels. Since 1927, she has made intensive efforts to be self-sufficient in wheat, with an increased wheat area of only 500 thousand acres. With intensive cultivation and improved varieties, Italy can occasionally reach self-sufficiency with a production of nearly 300 million bushels. But her wheat acreage is quite variable, and in 1936 the crop was only 225 million bushels, and 58 million bushels of wheat had to be imported. Italy's special importance to Canada used to be as a purchaser of Durum wheat for macaroni manufacture, and she used to absorb all of that wheat that Canada could supply, from 15 to 25 million bushels annually. Lack of exports, loss of tourist trade, and the cost of military adventures have all reduced Italy's capacity to pay for imports. Undoubtedly Italy could use to advantage a great deal more food. Canada's special efforts there should evidently be devoted to trying to reestablish the former trade in Durum wheat, even although Italy finds it necessary to restrict imports of other types of wheat.

FRANCE

France has substantially reduced wheat acreage from about 16 million acres before the war to about 12 million acres. Up to 1930 her consumption was about 300 million bushels annually, of which about 15 per cent was imported. Lately, at high internal prices maintained, she is unable to consume more than 300 million bushels annually. When domestic crops rise above that level, as they occasionally do, France resorts to export dumping, but will import some wheat when unfavorable weather gives her a small crop. France's ability to pay for imports is impaired both by general trade conditions and the loss of much of her formerly immense tourist trade. Restrictions on imports include high duties, milling quotas and import licenses. Much of this is a matter of exchange regulations, for France has made desperate efforts to prevent the greatly devalued franc from slipping still lower in exchange value, and restriction of imports is one measure to that end. Improvement of France's international trade and restoration of tourist travel might reestablish both the willingness and the ability to import wheat. This country's special efforts with France should evidently be devoted to getting restrictions relaxed on wheat of a high protein content, especially valuable in mixtures with her own soft wheat, which this country alone is in the position to supply regularly. France is also a good potential customer for Durum wheat as various forms of wheat pastes similar to macaroni are used to a large extent. Canada might endeavour to get her to accept as a feed grain low grade wheat marked as it can be marked, to prevent milling for human use.

OTHER CONTINENTAL IMPORTERS

The Netherlands, Belgium and Switzerland form a special group of Continental countries in that they are much more dependent on imports than on domestic production, requiring annually combined imports of about 80 million bushels. Denmark, Norway and Finland are steady importers of wheat, and of rye more than wheat. Greece also imports regularly, and Spain and Portugal somewhat irregularly. Perhaps 125 million bushels represents the lowest level to which Continental wheat imports, outside of France, Italy and Germany, can fall, while 200 million bushels is about the highest level such imports have ever reached. While practically every country of western Europe has been affected to some extent by the same forces as France, Italy and Germany, and in practically every one we may find hope or opportunity of again expanding wheat trade, it is in the large countries that the problem is chiefly centered.

Canada's interest in non-European markets is proportionately less than in those of Europe. Brazil is important as the second largest wheat importing country of the world, the imports of which have been lately growing, until now they absorb nearly 40 million bushels of Argentina's annual wheat supplies. With further development in Brazil, the use of wheat should be capable of much further expansion. The combined imports of China, Manchukuo and Japan, which only six years ago amounted to 90 million bushels in a year, and for several years were well over 50 million bushels annually, have lately, under conditions prevailing in China, been very small, and might conceivably for a time disappear. We used to look enviously at Australia's predominant share in that market, but at least it had this result, that Canada suffers less than Australia from loss of Oriental trade. The United States has a predominant interest in, and superior access to markets in the Philippines and in Cuba. The total for non-European imports of wheat for the current year has been estimated at 120 million bushels. To that, a large number of countries, each with comparatively small imports, will contribute. While such markets are likely to grow, and would be affected importantly by increase in general prosperity, we must go back to Continental Europe for the hope of any very large increase in the near future.

Before further consideration of markets we need to consider Canada's competitors.

Russia last year exported 42 million bushels of wheat and this year may export slightly more. But in 1936-37 she exported only five million bushels. Russia might disappear as an exporter at any time, as it is presumed the needs of her growing

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population could absorb all her food production, especially if a desirable increase in animal husbandry were to develop. It was because Russia, which in pre-war days used to export annually 175 million bushels of wheat, practically withdrew from the export trade for a time, that Canada was able to become the world's greatest wheat exporter. Russian developments remain unpredictable, but the country remains in the background of the wheat picture, as a possible, but somewhat unlikely source of large supplies for importing countries.

It is also highly important to Canada that the surplus grain producing area of eastern Europe no longer has the same quantity of wheat to export as in pre-war days. That is in spite of the fact that a very large part of the European increase in wheat acreage lies in that area. Partly it is due to largely increased population, and partly to increased standard of living, with greater consumption of wheat. Hungary, Rumania, Yugoslavia and Bulgaria, before the war, exported about 110 million bushels of wheat annually to western Europe. In recent years they have usually exported less than 50 million bushels, although the quantity has gone as high as 89 million and this year is expected to reach 75 million. Both Yugoslavia and Rumania have a large corn acreage, and a greater production of corn than of wheat. Corn forms a large part of the diet, but is also exported in considerable quantity. Rumania, troubled by difficulty in exporting, is currently urging farmers to transfer acreage to corn, and also advising the people to eat more wheat and less corn. Although the export surpluses of these countries are small in proportion to production, they have all had difficulties because of low prices, and have endeavored by subsidies to maintain former prices and exports. Their competition in export markets might be lessened by further increase of population, or by advance in the standard of living. Or it might change from exhaustion of government treasures and inability to continue subsidies.

Changes in India also helped Canada find a place in the world wheat market. Her ability to import occasionally, instead of exporting 50 million bushels annually as before the war, indicates a tendency among Oriental people to consume more wheat, a fact which may be of importance in the future.

Australia is a competitor, but somewhat indirectly, of Canada's. She can dispose of comparatively little wheat in Continental Europe, and there are definite limits to the quantity of soft white wheat that the British market can absorb. The Oriental market has helped to keep her annual exports up to close to 100 million bushels. If the current decline there is permanent, a considerable reduction of acreage is likely to be forced on Australia by low prices, and a limited ability to offset these by subsidies to farmers.

United States wheat developments have a great importance for Canada. A production of 940 million bushels of wheat in 1938, was the result of a great acreage increase in recent years in winter wheat. Seedings for that crop have been:

Crop of 1913	37,372,000 acres
Crop of 1928	48,431,000 acres
Crop of 1932	43,371,000 acres
Crop of 1938	57,316,000 acres
Crop of 1939 (estimated)	47,000,000 acres

Thus in six years the United States increased its acreage by more than the whole wheat area of the province of Saskatchewan. This is in spite of repeated advice to farmers to reduce acreage and various government policies directed to that end. A shrinkage of over ten million acres is estimated in the crop recently seeded for next year's harvest. If a proportionate decrease should take place next year in spring wheat acreage, or if crop prospects are as poor as some reports suggest, the country might produce in 1939 no more than a year's domestic requirements.

The administration is currently trying to force 100 million bushels of wheat into export under heavy subsidies. To us outside of that country this appears to be having a very bearish influence on world markets. We should be more concerned if this should be regarded as a permanent policy. But it appears unlikely that a

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great commercial nation like the United States will long continue the practice of subsidized export dumping, so universally regarded as inimical to trade, and nowhere so much as within its own borders. And without extravagant dumping maintenance of exports on anything like a scale of 100 million bushels would seem unobtainable for that country. While exports in the past have been larger, much of them was in the form of flour, and much of that market has been permanently destroyed by the fact that most countries, determined to do their own milling, discriminate against flour as compared with wheat. For a great part of the United States surplus there is little demand by overseas millers, except at prices well under those for Canadian wheat, as has been seen this year. Whether the country will or can contract its wheat production so export surpluses will not be large enough to interfere with a policy of fairly high domestic wheat prices, is uncertain. But certainly the domestic market, requiring an annual production of about 750 million bushels annually is the important one to the United States, as the export market is the important one to Canada. It is a reasonable expectation that neither the wheat production nor the wheat exports of that country will continue to have as depressing an effect on world markets as is the case this year.

Argentina is Canada's most definite competitor in the international market, and of all competitors the one most likely to continue established rates of production and export. Annual export surpluses, however, of about 150 million bushels are more probable than the quantity of perhaps 200 million bushels which has been produced for export this year. To Argentina, export wheat trade is less important than to Canada. Her corn, linseed and meat exports combined are more valuable. Argentina, while guaranteeing prices to farmers in terms of Argentine currency, has been attempting to evade direct costs by the manipulation of exchange rates. How much further that process can be carried is a matter of doubt, and it is possible that low prices and the inability or reluctance of the government to subsidize farmers at the direct cost of the treasury might force acreage reduction.

And now we face again the question of Canada's ability to export from 250 million bushels to 275 million bushels of wheat annually. Under trade, economic, and political conditions such as prevailed this year, it is highly doubtful. Under such conditions we shall find such a market with ease only when weather conditions are elsewhere unfavorable for crops, especially in western Europe, and France, Italy and Germany are reluctantly compelled to part with foreign exchange to pay for absolutely necessary wheat imports. If the world market, over a period of years, takes only 540 million bushels, and Canada and Argentina between them provide 400 million bushels, it would leave 140 million bushels for Australia, the United States, Danubian countries, and Russia. Even that is a possible allocation, but only if prices do not tempt Russia to export, if the Danubian countries do not find it worthwhile to force wheat export surpluses out under subsidy, if Australia restricts herself to producing only such quantity of her particular type of wheat as her special markets absorb easily, and if the United States ceases to struggle for an export market, unprofitable and unimportant to that country. In such competition Canada might well outlast other countries because of the sheer necessity of the export market to the Dominion, and also because of the special quality of her wheat. World weather for one or several years may be so unfavorable to wheat as to postpone the problem. If so, it will inevitably occur again unless trade conditions can be improved.

And now for what ought to be done. If we are to regard present political and trade conditions as permanent we must at least consider the possibility of great and inevitable contraction in western agriculture. If, on the contrary, we believe such conditions are capable of improvement, we shall want to delay adjusting our national economy to world conditions until it is clearer what sort of a world we are to live in. During such a waiting period continued assistance from the Dominion Government for western agriculture is likely to be necessary, to a greater or less extent depending upon market conditions as affected by world weather.

And next, realizing that Canada, by her wheat trade of the past, made herself part of the European system, this country must address herself to the task of making it possible for her great potential customers in Continental Europe, and

especially France, Italy and Germany, to buy her wheat. Past policies of this country may have contributed to make worse the general condition of international trade. On the other hand, such policies may have seemed inevitable when introduced. It may be that every possible effort at improvement was made under conditions of tension prevailing in Europe in recent years. A new situation is in the making in which action is possible, a situation arising, not only because a European war was averted this year, not only because France and Germany, and Great Britain and Italy, have found some cause for agreement on political questions. It is also because Great Britain and the United States in common have made an important effort to improve international trade.

Unreasonably high tariffs form one of the obstacles to international trade, but also important are various other restrictions such as exchange controls, clearing agreements and quotas. With those out of the way, consumption of wheat and other foods would rise, and some wheat acreage, capital and labour would be transferred to other production. Mr. Paul Van Zeeland, formerly Prime Minister of Belgium, recently made a report to the governments of France and the United Kingdom, on "An Enquiry into the Possibility of Obtaining a Reduction of Quotas and of other Obstacles to International Trade." Mr. Van Zeeland declared that "in the present state of affairs the negotiation of bilateral commercial agreements, based on the most favoured nation clause, remains one of the most efficacious methods for reducing tariff barriers." And he said, writing ten months in advance of the agreement to which he referred, "No one would underestimate the effect which would be produced—either directly, in its reaction, on the two national economies concerned, or indirectly in its repercussion on the whole world, by the conclusion, in a spirit of international collaboration, of a commercial agreement covering a wide range between the two great Anglo-Saxon communities." A larger pact of international collaboration was urged by Mr. Van Zeeland as desirable between the principal economic powers, and at least France, the United Kingdom, the United States of America, Germany and Italy.

Canada had an important influence and perhaps played an essential part in the agreement between the United Kingdom and the United States. Canada can also play an important part by direct influence or by concessions of various natures, in bringing about a larger pact. No country has better reason than Canada to realize the importance of bringing Italy and Germany into the scope of such an understanding. The cause of peace and the interests of the oppressed in Europe, would be better served by the revival of German trade, which the British Empire and the United States might be able to bring about, than by any other possible development.

But Canada can also do something directly to improve her own trade with Continental countries. More than trade agreements are necessary. There must also be a willingness to trade, and a welcome in Canada for such marks as "made in Italy," "made in France," "made in Sweden" or "made in Germany." There needs to be developed in Canada realization of the fact that it is only the export trade of western Europe that will make possible continuance of our wheat trade on anything like a satisfactory basis. It is a difficulty that Canada's exports are so largely trans-Atlantic and her imports come so largely from the United States. But the standard of living in Canada is not so high, the development of this country has not proceeded so far, that we should be unable to use an additional 50 million dollars' worth of goods from Europe in payment for an additional 50 million dollars' worth of wheat, even if total imports from all Continental countries have frequently been less than 50 millions in a year.

Canadian merchants can deliberately plan to offer suitable Continental goods to tourists from the United States, while duties on such goods can be lowered to make them cheaply available. We have lakes, forests, and mountains in abundance. A shopping boulevard from Halifax to Vancouver could be as important a tourist attraction in Canada as a new road.

Another thing we can do is to be on guard. If a wider economic conference is not held, perhaps an international wheat conference is in the making in which

Canada may be urged, particularly by the United States, to cut down wheat production, and join in an attempt to put a limited international market on a quota basis. Opinions here will differ as to the possibility of such action and of useful results. But at least we shall all agree that efforts of the sort involve several dangers to Canada. The international wheat market is comparatively more important to Canada than to any other country in the world, and any sacrifices either voluntary or forced would be proportionately more costly. Canada has a special product to offer for which greater potential export markets exist than for many other types of wheat. There is no possible way of dividing to Canada's advantage the special markets of Australia in the British biscuit trade, in China, or in India, those of the United States in certain flour importing areas, or that of Argentina in Brazil. If attempts at dividing European markets drew forth greater supplies of hard wheat from Russia, Canada would be the chief sufferer. She would suffer also if such attempts resulted in any further degradation of flour standards in different countries. Canada cannot afford to make sacrifices to enable the domestic wheat policy of a wealthy country like the United States to function, nor should she enter any arrangement that would sanction the policy of subsidized dumping. On such and similar points Canadian delegates to an international conference should be thoroughly equipped with information.

Any such plan is necessarily based on the theory that under existing conditions it is possible to get from importing countries more for the wheat they import. It is only with respect to the market in Great Britain and probably those of Belgium, Holland, and the Scandinavian countries, that one can feel reasonably confident of this. But even in such markets we have already had, in 1931, experience of what a decline in sterling can do to our national economy, and a recent fall of about seven per cent in the value of sterling in Canadian funds creates new apprehension.

No such plan could have more than a temporary effect unless its implications of reduced production in various countries were frankly faced and loyally carried out. If in the long run reduced production is inevitable, it will perhaps be found that each country has to deal with the question alone on the basis of the markets it can hold for its particular type of wheat and the possibility of switching not only acres but men and capital to some other occupations.

International consultation might deal with one special point. International prices have been hurt this year by subsidized wheat dumping of unwanted surpluses, most particularly on the part of the United States, France and Rumania. As the British market is the chief place where such dumping is practised, Great Britain might be asked to consider imposing a special dumping duty against subsidized imports of wheat, and it is reasonable to believe that France and the United States and Argentina at least, could be brought to approve such action in the general interest of the international price structure.

If efforts at improving international trade are unavailing, Canada's relation to the British market calls for special consideration. In time of peace that market could get its wheat elsewhere than in Canada. It is otherwise in war. Argentina and Australia are too far distant as was proved in the last war. The neutrality policy of the United States might be opposed to large or even to usual supplies of grain. The wheat fields of western Canada are just as essential a part of the defences of Great Britain as are aeroplanes or machine guns whether manufactured at home or in eastern Canada. Any great recession of wheat growing in the West would be dangerous to British defence as it would be to the economic structure of Canada. If necessary to prevent it, emergency arrangements between the British and Canadian Governments should be contemplated. One of these could well be the maintenance of a storage reservoir of wheat in Canada of 100 million bushels or so. Another would be an undertaking on the part of Great Britain to import not less than 100 million bushels of Canadian wheat annually. With each government assuming a risk of loss through price changes, Canada might agree to sell and Great Britain to buy, within five years, say 500 million bushels of wheat on the price-basis of \$1.00 per bushel at Fort William. Canada could supply, at a low rate, the storage capacity to hold 100 million bushels of this in reserve. Price adjustment could be made outside regular market machinery in some such way as Great

Britain now guarantees to its own-wheat producers a price basis of approximately \$1.25 per bushel. Such proposals are radical and quota systems are admitted to be objectionable in international trade. But if health is not restored to the wheat situation through trade improvement, some such action may be required to prevent danger to Empire defence as well as to the economic and even the political structure of Canada.

And now for a course of action which Canada can adopt on her own account. Whether the international wheat market remains constant, shrinks further, or expands again, Canada must try to sell as much wheat as possible. A new force to work to that end is required. Canada needs a Canadian Wheat Institute equipped to carry out promotional work on behalf of Canadian wheat in every part of the world where its sale can be maintained or expanded. This idea has been put before the public for several years and the way for government action on it has been cleared by a recommendation in its favour by the recent Royal Grain Inquiry Commission. A sufficient realization of the opportunity and the need for such work and of its importance, and a sufficient expression of opinion in its favour from western Canada, might well bring such an Institute promptly into being and into action. We have in Canadian wheat, as pointed out at the beginning of this paper, a product of superior merit, although one which customers can do without. That fact presents a merchandising problem to be dealt with along merchandising lines. We need to obtain a full appreciation of the milling value of Canadian wheat. Such appreciation, while it exists with some millers and with some bakers in overseas markets, is still lacking in others, a statement which was confirmed in evidence before the Commission by a world recognized authority, Dr. Alonzo Taylor, formerly head of the Food Research Institute of Stanford University, California. In addition, Canadian wheat has a superior food value. Its starch constituent has about the same energy value as starch found in other wheat, or other foods. Canadian wheat is high in protein, a nitrogenous and body building element, and proteins are deficient in the diet of people in many countries. The additional protein value in Canadian wheat will frequently represent the cheapest form of such food value, a fact which should be exploited.

There is need for study of baking techniques in different markets abroad. In some of these the consumption of Canadian wheat is limited by the fact that the best methods of getting full value out of it in baking are not fully understood. We need not be discouraged from such efforts by the fact that the consumption of bread is comparatively inelastic. The consumption of high grade wheat in flour is very much more elastic than that of bread. Wheat such as Canada can supply, can replace not only other types of wheat, but rye, corn, and potatoes.

Then, a very large part of the world's population, many millions of our possible customers, have not the bread baking habit. Tens of millions of bushels of wheat every year are consumed in other forms than bread, in macaroni and similar pastes, in dough balls and in dumplings, and in various forms which lend themselves to cooking in an open pot instead of in an oven. Such uses can be very largely developed, in Oriental countries, in Africa, and elsewhere. A country like Brazil, where wheat consumption is expanding, but is still very low per capita offers an excellent example. Canadian wheat, because of its gluten content, is excellently adapted to such uses.

Then, the use of wheat as live stock feed could be greatly expanded, and in such expansion should be found the outlet for wheat surpluses when they occur. Nowhere is wheat used for feeding to the same proportionate extent as in Canada, and even in Canada both its value and the technique for feeding it are inadequately understood. Development of such use could be of tremendous importance. We cannot afford to let go by default the feed grain markets of the world, nor can we afford to ignore the possibility of their expansion.

To carry out such work there should be an Institute set up in charge of a representative body of trustees. While it would do some advertising, its functions would include other types of promotion, together with intensive market research. It could work more flexibly than a direct department of government, in

line with a principle recognized both with railways and with radio. And it could work more efficiently than any organization concerned with actual sales. An endowment of several million dollars would enable it to put its work on a permanent basis, and to carry it on satisfactorily. Such a sum assumes its proper proportions when we put it against the approximate cost of administering the Canada Grain Act, and conducting the weighing and inspection of grain in Canada, which comes to about two million dollars a year. It is small in proportion to the value of the wheat industry to Canada, and it is small in proportion to the costs that will have to be borne by the Dominion treasury if Canada fails to maintain a satisfactory export of wheat.

Probably an attempt to appraise the wheat situation should conclude with a reminder that after all we are talking about the unknown future, and the future in a world subject to extremely rapid changes. There is no more reason for supposing to be permanent, conditions which now confront us, than for surprise because the conditions of ten years ago did not continue unchanged. There are features in the present situation which rightly cause concern such as is indicated by the holding of this conference. We cannot escape the fact that the fortunes of this country, engaged to so great an extent in international trade, largely depend upon developments outside of our control. But at least we can find grounds for hoping that such developments may take a favorable turn, and we can find plenty of room for Canadian action to make sure that we make the best of whatever conditions we have to face.

THE CHAIRMAN: I want to thank Mr. Griffin for his very valuable contribution to this programme.

One of the leading statisticians of western Canada, Dr. Sanford Evans, is ready to lead the discussion, and there will be others follow. Dr. Evans.

DR. SANFORD EVANS

MR. CHAIRMAN, LADIES AND GENTLEMEN:

Even before an audience which I am glad to say contains so many old friends I feel that I must give myself a word of introduction. I appear before you today as the representative of a class that apparently has become almost extinct—a wheat optimist. During the last two hours I have wrestled again with the great problem and I have emerged an optimist still. That is because there are additional facts to be considered which bear upon this problem. We must face the facts, all the facts, and we must be prepared to act realistically.

This wheat problem today is involved with almost all sorts of theories. It is used by persons with policies of different kinds in mind, but if we can look upon it in a concrete and realistic way, and face the situation that exists, I see no reason for gloom.

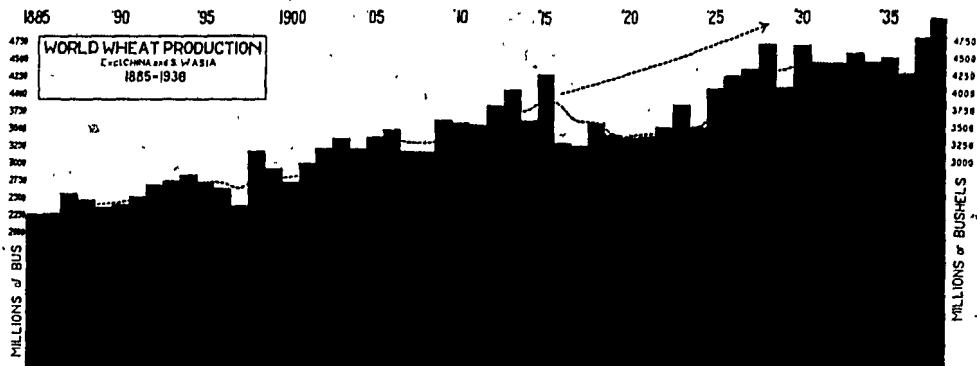
To convey in as few words as possible one or two of the considerations in my mind I am going to put before you a chart (see next page) to which I will call your attention. I hope you can all see the outline of that chart. It is a chart of the world's production of wheat from 1885 to date, 54 years. The figures are from the Food Research Institute, but they include the production of Russia, which production was not included in the statistics which were given from the platform today. There is the chart, gentlemen, of the last 54 years. You can see the effect of the war. From conditions of war itself, and for other reasons, the production of the world was sharply and very greatly reduced. There was less to eat, and there was less eaten. People had during the war to accustom themselves to a somewhat different regimen than was possible in former times. Then we had the very sharp recovery or rebound after 1922 to the normal use of wheat in the world.

With regard to the papers we have heard today, however, I should say that I must express my personally sincere appreciation, and I know that all of you feel the same. I will not take time to develop our appreciation, but I may make one or two observations with regard to those papers. The Premier outlined this morning

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that it was hoped that out of this assembly some lead would emerge about what should be done, or some conclusion should be drawn from what is placed before us. One observation I would venture to make, and that is that we must, in drawing conclusions from Dr. Wilson's paper, be a little careful, because it included only the

Chart 1.



period from 1922 to date (indicating), and I would suggest that that is not a broad enough base, in view of the fact appearing in the chart, from which to view the world's problem or what may happen in the future. I have never, in tracing the development of any trend in production or industry, seen any more consistent upward trend than appears in the facts of the world's wheat production, modified only by the extreme conditions of the war. What does that mean, gentlemen? It means that the world's population has been increasing, and that is the great fact that has not yet been introduced into this discussion.

We know from tests that the per capita consumption of wheat today is not as great as it was before the war, but, gentlemen, last year we closed the year with less than what is considered a normal carry-over. The world had used up all its wheat by the first of August last, except the bare necessary working stocks, and last year the world used more wheat than it ever grew in any previous year in its history (indicating). We cannot overlook that the world's population has increased.

If we take the figures supplied to us by the League of Nations, which run from 1929 to 1937, only eight years, there was an increase of 142 million people in the world within that period. We have heard today that the acreage increase in 17 years was two Canadas, but the world's population increase in eight years, half the time, was over 12 Canadas. If we take that increase, according to the League of Nations figures, it averaged 17,750,000 persons a year. The world disappearance of wheat is two and one-half bushels per capita, and if we consider that the new population is spread proportionately all over the world—of course, it is not quite—it would require 45 million bushels a year of new wheat to meet the demand of the new population. The world's average production per acre, as Dr. Wilson has told us, ranges between 13.4 and 15 bushels. Take the average as 14½ bushels. It would take three million new acres per year to supply the new population. Now we hear that the rate of population is decreasing in many countries. Perhaps it is. The rate has been smaller in these last eight years than it was in the years immediately preceding. But I think we can look forward to an expanding consumption of wheat with new people. There are new markets every year.

We have heard a great deal about prices today. The Premier referred to the unprecedented decline in price which has been put before us. Is the wheat price cheap today, gentlemen? What wheat price are we talking about? Our problem is the disappearance of wheat. So the price that counts is the price to the user. Is the price to the user of wheat cheap today? It is not. A great part of the world is being called upon to pay luxury prices for wheat. You producers who are in this audience, are getting a disastrous return, true, but it is not your price that is determining

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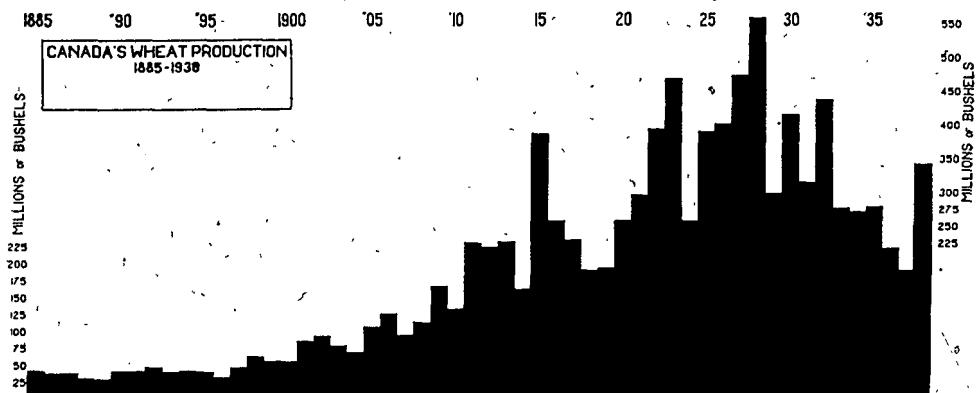
the world's demand. You will recall the chart which Dr. Wilson threw upon the screen. Is \$2.18 a cheap price for poor, weak, wheat? Is \$2.12 a cheap price? Is \$1.95, \$1.85, \$1.65? There is no consumer in the world who can eat wheat today at the prices we have been talking about. Those are not the prices that are influencing consumption, but rather those prices which Dr. Wilson threw on the screen from Germany, France and Italy.

I started charting those prices away back in 1928, and I adapted them to the index of general prices in those countries. When our export prices were lowest in 1932 and 1933 in Germany and France it took \$140 of general goods to buy \$100 of wheat, whereas in 1928 it had taken only \$100 worth of goods to buy \$100 of wheat. The prices which prevailed then and are prevailing today in those countries are luxury prices. There is no use talking about the price of wheat being cheap, because the only price that counts is that to the man who uses it.

Why is there this difference in price? It is because of price spreads which governments have introduced between what the producer in surplus countries gets and what the consumer has to pay. We have heard a great deal about price spreads at different times but there never has existed a time in which price spreads so extravagant have been introduced between the producer and the consumer. That is our problem. If we could restore prices to consumers that were reasonable, and bring about a per capita consumption which would equal that which prevailed before the war, we would have no trouble with any surpluses that exist today.

There are no people in the world getting wheat at the price that you producers know by personal experience. The people of Canada are paying 80 cents a bushel, and our market price is 60. Eighty cents is fairly cheap. But in addition to that the people of Canada are going to have to pay the difference on all wheat exported, and if present conditions continue that will be 20 cents a bushel, and the wheat we eat in Canada will cost the Canadian consumer a dollar and a half. The people in the United States cannot eat wheat at their export price. Argentina is going to have two prices. Australia will have 97 cents to her own people and will export at 40 cents or 50 cents. Even in the United Kingdom the government places a tax on flour, and therefore on the consumer, raising the price to the consumer sufficient to pay the English producer \$1.30 a bushel. Spread over all the wheat consumed in the United Kingdom this adds 22 cents a bushel to the market costs. That is the situation which we face.

Chart II.



Here is another chart, and we will turn to thinking what we are going to do about it. This chart shows Canadian production of wheat for the same years as in the first chart, at ten times the scale of the former. Did a jig-saw artist ever cut a more fantastic block? That block, gentlemen, is what we have been trying during all these years to fit into the world's wheat picture.

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Dr. Wilson referred to the variations in individual countries. In Canada our problem is even worse than appears in the chart. I will hold a piece of paper to cover the quantity representing our home consumption in the last ten years which has averaged 112 million bushels according to the Food Research Institute's figures. The visible balance of the chart has made our export problem. This is another fact to face and what it means we have to take into account. You could never, if Canada was the sole source of supply, make wheat a staple of world consumption, because you could never train people to change their whole regimen year by year according to the extreme variation of our exportable surplus. I suggest therefore, just in a word, in view of this fact, that the wheat problem is a world-trade problem. You can't deal with it by means of a particular country.

What, then, are the solutions? I will exclude in a word or two, certain solutions or lines of action. I have seen many suggestions. Some say, let us try to make barter arrangements with different countries, or special tariffs, or bilateral agreements. How could you make barter arrangements? You would have to make new arrangements every year. Canada has a direct export trade in wheat and flour with 99 different countries, all named in the Customs' returns of the last eight years. Supposing you made an agreement to swap goods one year (indicating 1923 or 1928), what would you do the next year, when the exportable surplus was not half as large? We cannot solve the problem by special tariff agreements.

Then others say some general tariff reduction will solve the wheat problem. I take it reference is generally made to textile and agricultural implements. Even if we had free trade all over the world, while it would have powerful effects in other ways, it would not alter the problem created by varying quantities in the slightest. We have got that problem to meet whatever happens, and it is not an easy one.

You cannot accustom all the world's millers to depend on a definite percentage of Canadian wheat in their blend because the supply is too uncertain. They will take the average minimum of the Canadian supply and pay you a premium, if you have not got any more just as they did in 1937-1938 (indicating), but they will not pay high premiums for the irregular bigger quantities, and we have got to face that fact too.

A suggestion that may naturally occur from looking at the chart is why not have an ever-normal granary? With all respect to Mr. Wallace, I would like to say that after the most careful consideration I have been able to give the matter I consider that proposition, as a proposition for Canada, or as a proposition for the world to be impracticable, because we are living in a world of nations, and you could never get an agreement by which each individual nation would adjust itself to a world scheme, and it would not be practicable as an individual scheme. Even the wisest committees can only know what is past, they cannot know what is to come, and if from past experience they had said we will store a proportion here (indicating a big crop) what would have happened? (Indicating still bigger crops that followed.) If they had said in view of all past experience we will store a proportion of the 1928 crop, what would it have amounted to when the following crops were so small? If you had carried over wheat from there to here (indicating) it would have cost you \$1.25 to buy it and another \$1.25 to carry it, at a cent a month, and you would have had \$2.50 wheat in a 60-cent market. We can make far better use of money than that.

One other point I would like to mention in connection with this problem of variations in supply. This year there is the greatest crop the world has had, yes, but we have had as big percentage changes to deal with in the past (indicating); if we managed those why worry about this? It is said that some special revolution in methods is necessary to handle the business this year. We handled it there (indicating) and I venture to say there is no man in this room who can recall ever having heard anything about excesses or difficulties in that period.

Just a word about prices. If there is a relative increase in any class of commodity as compared with others within the system of exchange which constitutes our economic world, and a change in relative proportion results, then, if you succeed in effecting complete exchange, it is physically and mathematically clear that those

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having this disproportionate group must get back fewer units per unit than they did before when they had a relatively smaller quantity. Anything that is temporarily or otherwise out of proportion with the rest suffers in unit price.

I believe that the position of the producers of wheat in Canada deserves special consideration, and that it should be a matter of government concern; and in anything I am saying now I am not excluding this problem or diminishing its importance in any way. The question is only as to the method of doing it.

What has happened? Our government, of all the governments of the world, this year took the first action. It declared to the world that it would cause the Canadian people to pay 80 cents a bushel for all the wheat that was marketed, and then in the same announcement that it would, notwithstanding the cost, sell competitively at all times in the world's markets, and would as far as possible sell as fast as it received the wheat. What was the reaction of the world to that? The world said, "That is dumping," and it was so named, as you will recall, in the press dispatches coming in from the outside world.

What is dumping? It is trying to sell some place else at less than cost at home. Our government did not intend anything in that sense. It had in mind only the assistance to the producers. But it did not say a word by way of explanation, and the world accepted it as dumping. What followed? Mr. Wallace almost at once said the United States would have to take up dumping.

I would modify what Mr. Griffin said today, when he referred to the United States as particularly the dumping offender this year. The action by Canada and the United States was followed by all other export countries. Just a few days ago we heard that little Uruguay, with only a few hundred thousand bushels of surplus, has adopted a dumping scheme. All the export world took that action, one nation after another.

When Sir George Paish was here the other day he told the story of a school master who put the question to his class: "What is the difference between results and consequences?" A hand went up. He said, "What?" The answer was: "Well, results are what you look for and consequences are what you get."

In that sense at least what has followed is the consequence of the action the Canadian government took. Following the action by the exporting countries, all the importing countries stiffened their defences because no country approves dumping; every country condemns it. We have a law in Canada which is intended to thwart and penalize dumping, and so has every other country. The world took action against dumping, and we have stiffer prices to consumers and greater difficulties in the way of our market. It will be a matter of considerable difficulty, and undoubtedly will take time to undo these conditions which are imposing the price spreads between your wheat as it leaves you and the wheat that the consumer has to eat in the world. But even if we cannot immediately influence the main consuming countries in the world, and they retain these obstacles to consumption, we have the increase in world population, which is going to continue and enlarge our market.

We have got to face the facts of the situation in the meantime. There is one thing which I suggest the exporting countries might do, and that is to reach an agreement among themselves that they will never in the future again resort to subsidized export, because it is not doing any good. This 78 cents, the parcel price at Liverpool, is not getting anywhere. Nobody can eat at that price. What becomes of the difference? It is going into the treasures of the European governments, enabling them to distribute bonuses to their own local producers. That price is not a price that anybody can eat wheat at. It is the strangest spectacle I have ever seen, that of countries competing with national treasuries in making a price that is not getting anywhere. Knowing nations as we know them, is it not inevitable that if one nation starts anything like that all the others will almost instantaneously take steps against it.

We can give assistance to the producer, and that must be considered at all times, and is not affected by what I have said. But my point today is that you cannot do it through the market without accentuating all the difficulties you have today.

I have spoken too long, but I have perhaps indicated one or two of the considerations in my mind which make me an optimist on wheat, because even with all these limitations and restrictions, and despite the fact that governments are making a big proportion of the people pay luxury prices, the world is eating more wheat today than it ever did before and there are going to be more people next year. If we can get a price for the consumer that will correspond fairly with the price to the producer, we will have, I am convinced, a fairly satisfied producer and a consumer who will use very much more grain than he is using today.

THE CHAIRMAN: Thank you very much, Dr. Evans. I wonder if we have some other optimists who are ready to go on with this wheat discussion. I was interested in Dr. Evans' statement that governments in different parts of the world are responsible for this situation, and quite frankly I would be an optimist myself if we could get all the governments of the world out of the way of getting our wheat to the consumer.

I will now call upon Mr. J. H. Wesson, president of the Saskatchewan Wheat Pool, and president of the Canadian Chamber of Agriculture. Mr. Wesson.

MR. J. H. WESSON

MR. WESSON: I rise to continue this discussion, not as an optimist, although I think my colleagues will tell you I am a born optimist. In this case, however, and at this time, I must be a pessimist, because I am meeting conditions as we are facing them now and because we have experienced over the years 1930 to 1935 certain conditions which made some of us pessimists, and realizing that we are again in the same state, I must continue to be a pessimist. However, I would like to say this, because of our friend Premier Bracken having the foresight to arrange this conference, I am optimistic enough to believe that emanating from this conference, or by this conference preparing the ground-work, there will be an incentive to governments and people in all countries in the world to get together and change the topsy-turvy position outlined by Dr. Sanford Evans. If that is done I shall be an optimist, and without it I must continue to be a pessimist.

It is my intention to deal chiefly with the very splendid paper read to us this afternoon by Dr. Wilson, from Ottawa, a paper which dealt very comprehensively with the whole world wheat situation, and dealing particularly during the past 17 or 20 years with acreage fluctuations, price levels, production, and lastly a very dark veil drawn across the future. I was rather intrigued by his statement towards the end of his paper where he said this, which I will quote: "In dealing with the future we are entering into realms of sheer fancy." That is true. It is something like the position that most of the men in this room get into when we want advice from our legal fraternity. They will tell us we may do this or we may do that; they will recommend this, but they are not definitely sure about it, and probably the court will finally decide, and they may be right or they may be wrong. The same thing with wheat, it may be this way or it may be that way, but only the future will decide and we cannot see into the future.

The first thing I want to deal with, arising out of Dr. Wilson's presentation to us, is the question of acreage and its relation to price level. I noticed this forenoon that Dr. Mackintosh made reference to the same question, when he said that low prices had not reduced wheat acreage. That, in my opinion, is the extreme opposite of the orthodox economic belief, that when prices go too low, production ceases until prices rise again, and then production again increases. While this may apply to industry in general, it can never, in my opinion, apply to agricultural production, and I am going to give you three reasons why.

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The first reason is, speaking as a practical farmer from the province of Saskatchewan, and I think it is proved by what happened in the year 1932 followed by 1933, that 1932 showed the lowest world wheat prices for the last 500 years, and yet we actually increased our acreage. Why? Here is the psychology of the western farmer. When he has produced a lot of wheat, and sells it lower than the cost of production, he feverishly proceeds to try to produce more to offset his losses. Of course it is foolish, but what can he do? He has his farm; he has his acreage, and he continues to produce. If he is successful and produces more wheat on more acres, he unconsciously, or all of them collectively, intensify the problem.

The second point was mentioned by Dr. Sanford Evans, and the chart which was put on the screen this afternoon also shows the actual conditions in the different countries in Europe, where prices have not been low, and because of that, even on the basis of the orthodox understanding of the reduction of production in relation to prices, there was no reason why they should decrease but rather under the policies of those countries they should proceed to increase.

The third reason I am going to make reference to is that in this general economic world topsy-turvy set-up we have been faced through all these bad years with what is in some quarters regarded as foolish, but in others a sound monetary policy, in dealing with foreign exchange between country and country. What did we find in this country in 1932? The standard of the sterling pound at that time was \$4.86, and speaking from memory, in that year, it went down to \$3.40. In that same year in Australia with the foreign exchange tied to sterling with the 25 per cent inflation, it meant that the sterling pound in Australia was worth 25 shillings instead of a pound as against our sterling of \$3.40 and \$4.86. Again speaking from memory, in Argentina, with the pound normally being worth 11½ pesos, in that year it was 17½ pesos. They were not suffering with low prices as we were in Canada. I think, as mentioned by one of the speakers, showing our relationship with the pound sterling at about \$4.70, if we in this country were on the basis of Australia and on the basis of Argentina today, which I believe is in varying degrees 25 per cent inflated over the sterling and controlled, sterling in this country today would be worth not \$4.70; it would be worth \$6.07 and a fraction. If my figuring is right it would increase the value of today's wheat in our own currency fairly close to 20 cents a bushel. That is the third reason why acreage is not influenced a great deal by these so-called low prices.

Let me deal in passing with something said in Dr. Wilson's statement dealing with the range of production from 13.4 to 15 bushels per acre, going down in 1936 to 12.8, and back up again this year on a very much higher level. What was it that caused this difference? It is something which people do not generally recognize. Thousands of people believed that starting about 1935 this wheat problem was solved. They thought that certain foolish policies practised by governments in this country, one of them being the refusal to sell wheat, had been responsible for the lack of markets and when wheat went into consumption again they believed the problem was solved and that we were away to the races. What really caused it, as mentioned by Dr. Wilson, was that this situation was changed only because of four disastrous crop shortages on the North American continent, and one disaster in Argentina, which made it possible—I am speaking from memory—in 1935 and 1936 for Canada to export to the United States fairly close to one hundred million bushels for the first time in the last century. But it did not solve the problem. Even in those years there were those who took a pessimistic view of the whole wheat production in the world, and who thought that unless an agreement could be entered into, it was only a question of time when on the present world wheat acreage the first normal crop would bring us into one of the largest world carry-overs we have ever seen. Nobody knew of course that we would meet that situation this year. We are facing it now, and we are all agreeing that there is a problem, and that this problem must be solved.

I notice that Dr. Wilson states that the possible carry-over at the end of this year will be one billion one hundred million bushels. The last record I saw from Washington indicated that there would be from 1,150,000,000 to 1,170,000,000

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bushels, which means in the last analysis an amount sufficient to supply two full years' world trading in wheat. That in my opinion is a problem that we cannot be too optimistic about.

How shall we meet this problem? Lots of ideas have emanated from some of those people who like to give advice to agriculturists, people who do not know so much about the problem, but like to give advice, and we have been told that we should reduce our wheat acreage all over the world. I point to Dr. Evans' second chart, and, I want to ask you, looking over that chart, what value would there be to Canada to say that we will solve the problem if every other country in the world would agree to reducing wheat acreage? There is the proof that it will not work; it is not practicable. Incidentally, it could not be successful if you tried to practise it. What would be the result last year in Saskatchewan if we had cut our acreage 75 per cent, with production 2½ to 3 bushels per acre? What difference would it have made on the world wheat situation? Practically none. It is true that in Australia and some of the other countries where they do not have the same crop hazards as we do in this country, taking the long range view, it may be practical to try and control their production by reducing wheat acreage. Our problem must be faced in a different manner. It must be faced in dealing with quotas, and fitting supply to demand, controlling those surpluses when they are not wanted, and feeding to the world at proper prices in years when they are wanted.

I call your attention to this, that had the advice been taken of some of our friends, even in 1930 and 1931, that every country in the world must reduce its wheat acreage, had that been asked for, had it been complied with, and had it been successful, I can visualize in 1936 a world wheat famine, because when we faced last July, the end of the 1937 season, as you have been told by one of the previous speakers, we had a normal carry-over. True it is that in preceding years, starting from 1928, we had a huge surplus, running up in three years to 1,300,000,000 bushels of unwanted wheat. The time came when this surplus was wanted for consumption. Nature had taken care of the problem of production temporarily.

The problem, in my opinion, will not be solved by reducing wheat acreage, rather will it be solved by controlling your unwanted surplus as far as you possibly can on the farms of this western country, so that those farmers have at least some insurance against crop failures, and in the following or succeeding years be able to sell on a proper price basis all the wheat that the world wants to buy in years of low production.

Let me turn now to the European situation referred to by Dr. Wilson. My opinion is that the whole European situation has turned the world topsy-turvy when we realise, according to the figures presented by Dr. Wilson, that three countries, France, Germany and Italy, whose average import was 201,000,000 in the years 1922 to 1926, and 172,000,000 bushels in 1929 to 1931, have since that time imported only 42,000,000 bushels per year. It means that since 1931 those three countries, France, Germany, and Italy, have imported 130,000,000 bushels less than they imported prior to that time; and since 1926-1927 they have imported annually 159,000,000 bushels less. There is the problem that we, as Canadians and producers in this country, must face, recognize and try to solve. In addition, information was given that all of these other countries referred to in the charts showed a reduction of 33 per cent.

Some things have been said today, I think first mooted by Premier Bracken in his opening address, dealing with expansion of world trade as a solution of the problem. I am not disagreeing with that statement, but I am not optimistic that it can be accomplished. If it can, it will be a slow process. The point I want to make is that the western wheat producer, and industries in Canada today who depend on the purchasing power of the western wheat producer, cannot wait for that expansion of trade, because we will go down in chaos long before that time. As long as we are facing this policy of self-sufficiency, or economic nationalism, practised in such countries as France, Germany and Italy, it means that to all

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intents and purposes agriculture is organized, by government control, or semi-government control, and with that condition existing, if we as Canadians are to maintain our place as wheat producers, we must gauge our future by meeting fire with fire, and organize on exactly the same basis, or we will continue to be in exactly the same position as we are at the present time.

What is wrong with quotas? As I understand it, in perusing a whole lot of statistics, as I do daily and weekly, Mr. Broomhall suggests that Canada's share of the world's wheat market this year will not exceed 144,000,000 bushels. That is all we are getting without a quota. That is what we will get without an agreement, —144,000,000 bushels out of the world import trade, but at prices that are away below cost of production. And in connection with this whole picture I would like to call the attention of this meeting to a very important phase of this world wheat situation, and that is that for the last 17 years the four large exporting countries, Canada, the United States, Australia and Argentina, have had in their control more than 80 per cent of the world export trade—I think the correct figure is 86 per cent. Surely, taking cognizance of that chart thrown on to the screen by Dr. Wilson, showing price levels in these European countries, some of them over \$2.00 a bushel, whereas the export price at Liverpool is 50 cents, there is a reason for such a condition. What is the reason? The reason has been because these people in Europe do not want to stand for Canadian cheap wheat, or American, or Argentine, or Australian, being dumped into their countries which would mean the ruination of their own producer.

Great Britain took steps to protect its own producers by fixing a price of 45 shillings per quarter at the time the world price was 22 shillings and 6 pence. Why? To keep wheat out? Certainly not. They imported the same amount of wheat as the years went by in Great Britain since that time as they did before. There was a reason for it. It was to protect their own people against the dumping of cheap wheat from these exporting countries which meant ruin for their producers.

I call your attention back for a moment to one clause in the London Wheat Agreement where the importing countries agreed that when the exporting countries would raise the price of their wheat to 60.2 basis gold they would start to lower tariffs. That in itself has proven my contention as to the reason why these prices have been in existence in the European countries, and have no relation to general world price levels.

In dealing with world price levels the consumer should not be hurt. I know in Regina last year when wheat was \$1.40 a bushel for No. 1 Northern, basis Fort William, we were paying ten cents a loaf for bread. This last fall I do not think it was changed until the end of October, with wheat lower than 60 cents a bushel, when it was reduced one cent at that time. According to all information we are able to get from the statisticians and economists, wheat as a commodity in the finished loaf of bread represents about 13 per cent of its value, and that the price of wheat can fluctuate 52 cents a bushel up or down before the price of a loaf of bread is changed one cent.

Let me in passing make another remark about our own situation in this country this year. A reference was made to the United States dumping. Mr. Chairman, Ladies and Gentlemen, Canada should be the last country today to criticize the United States for trying to get rid of about 100,000,000 bushels, because that is exactly what we are doing. We should not criticize the United States with its large production, and its large carry-over, in trying to get some share of the world's market, and as far as we know the American Government, through its agencies, has not been selling wheat below the world's market prices. Neither has Canada. It is being offered on the world wheat market at daily market prices. When the smoke is cleared away, nobody can tell of course what the wheat surplus will be worth after it has been held by the Wheat Board following next July, and nobody knows what is going to happen next year when all the surplus carried over next July must be sold. If it proves there is a subsidy, it means that we have dumped our wheat on the world market. My only criticism is that when the United States was

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honest enough even to come to Canada and discuss the situation and find out if something ought not to be done about it, that Canada, through its government, did not immediately co-operate to find out if something could not be done to stop this foolish price-cutting competition by the different countries endeavouring to sell all they could out of enormous productions of wheat, with the world demand estimated at 540,000,000 bushels, as estimated by Mr. Broomhall. Prices are down and no more wheat will be sold. The thing is silly.

Realizing that the importing countries do not want cheap wheat, and realizing that the exporting countries do not want cheap wheat, there ought to be a basis on which these countries can get together and deal with the problem on the basis of supply and demand and a proper quota. There ought to be an agreement for a basic world price for wheat. There is a basic world price for wheat daily. Is there any reason why there should not be a definite world price of wheat at a reasonable price level under which wheat could not be sold? You may say it is impossible for those countries to get together. Argentina was the bad boy in 1933, but do not forget this, that Argentina did want to deal with the basic price of wheat, and no other country would agree. However, a lot of water has gone under the bridge since that time, and I understand that Argentina is again a member of the Wheat Advisory Committee. Even Argentina today may agree to a lot of things she would not have at that time.

Turning towards the end of Dr. Wilson's address, I am going to read you the last four lines:

"As far as this country is concerned, continual attention as to high quality and strict grading, allied to the benefits of our favourable climate, will induce a special overseas demand for a considerable proportion of the Canadian crop."

My understanding is that we are still selling the best wheat in the world. I think that is proved by the fact that every country accepts Canadian wheat, not on the basis of sample, but on the basis of Canadian certificate final. As we were informed by one of our speakers today our No. 1 and 2 Northern always command a premium over the world basic price. That is not a solution of the problem. True it is that we ought to continue to maintain our position and to see that our wheat is produced and exported on the basis of the highest quality produced in this country, but it won't solve the problem. I think we should ask ourselves how we are going to get a considerable proportion of our Canadian wheat crop into the market, what would be termed a considerable proportion of, say, 250,000,000 to 300,000,000 bushels, and how it might be a bigger proportion than we have enjoyed in the past year with the same splendid wheat, and how it would affect these other exporting countries. I agree with the statement made by Mr. Griffin that it is proved without doubt that the world can get along quite well without Canadian wheat. It is easy to acquire the taste for different classes of bread. Incidentally, it is not always easy to change that taste for a different kind of bread, which we believe to be the best bread in the world. I have tasted the different breads. Just last spring in Australia and New Zealand I tasted it, and I couldn't eat it, but those people thought it was all right, because that is all they knew about. Going into Germany, they eat a loaf which you and I could not get our teeth into. But they do not have to have Canadian wheat. That is not the solution of the problem.

In closing I want to say that merely to produce wheat for the sake of getting it into consumption, as referred to by Dr. Sanford Evans, is not the important thing. Let me be quite frank and say that the western wheat farmer is not producing wheat for the glory of God. We are not producing it so it can be consumed by somebody. The producer is producing with a desire to get a decent price level, to get a decent standard of living. Unless he can get that, your problem is not solved. Wealth is not measured in volume. The production of 500,000,000 bushels of wheat in this country, with ruinously low prices, down to 40 cents and 50 cents, may

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be foodstuffs to the extent of 500,000,000 bushels of wheat, but it is only wealth as far as the producer is concerned when measured in a dollar and cent value which provides him with proper purchasing power.

The whole world situation has changed, and it must be met in an international way. We are back in one year to the chaos we lived in from 1930 to 1935. It has taken only one year to get there. Nobody can tell what the future holds, but I suggest this, that while volume in this country will bring huge revenues to railways in moving the grain and huge revenues to shipping companies in handling, like my own, yet if apart from the value that accrues to railway companies and elevator companies there is no surplus of purchasing power for the producer, it is only a question of time when everybody is broke, and there will be nothing for the railways to haul. This thing cannot continue. There is only one solution to the problem. Nobody wants this cheap wheat, neither the exporting nor the importing countries. It is imperative that these countries get together to give the world all the wheat they want at reasonable price levels.—(Applause.)

THE CHAIRMAN: I want to thank Mr. Wesson for his very constructive suggestions with respect to this problem.

Tuesday, December 13, 1938
10.00 a.m.

Chairman, Hon. John Bracken

THE CHAIRMAN: LADIES AND GENTLEMEN: This morning we are to hear a paper on European wheat requirements and policies by Dr. Wheeler. Dr. Wheeler is chief of the Foreign Agricultural Service of the United States Department of Agriculture. Before I ask Dr. Wheeler to speak I want to take this opportunity of thanking The Honourable Henry Wallace, Secretary of Agriculture of the United States, for his generous co-operation in connection with the preparations for this conference. He was good enough to say that two of their outstanding experts, Dr. Wheeler and Mr. Evans, would be with us, and they are both here now.

It is our privilege now to hear from Dr. Wheeler, who will discuss "European Wheat Requirements and Policies."

EUROPEAN WHEAT REQUIREMENTS AND POLICIES

by

DR. L. A. WHEELER

CHIEF, FOREIGN AGRICULTURAL SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE,
WASHINGTON, D.C.

MR. PREMIER, LADIES AND GENTLEMEN:

I want first of all to express my great pleasure to be here in Winnipeg. This is the first time I have had the opportunity of being in the Prairie provinces of Canada. I was born in the northern part of Iowa; and that was as close as I ever got to Winnipeg up to this time. As I understood the original programme it said something about the European situation from the importing countries' point of view, but I must confess that I look upon this wheat situation from the exporting countries' point of view. However, I have had the opportunity of visiting Europe three times in the last five years and I have learnt something about what the importing countries feel about the wheat situation.

The wheat surplus producing countries of the world are raising more wheat than the importing countries of the world are willing to take. That is the essence of the world wheat problem. Statistically, the position is something like this:

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In the 1920's the exporting countries were producing on the average around 750 million bushels of wheat for export. The importing countries were prepared on the average to take this much, or more, wheat at what would seem now to be fairly high prices. In the present crop year the wheat exporting countries of the world will produce something over 900 million bushels of wheat for export, but in the meantime the requirements of the importing countries have fallen to around 550 million bushels. In other words, while exporting countries have increased the available supplies by 150 million bushels annually, in years of ordinary weather, the world import requirements have fallen by at least 200 million bushels a year.

The purpose of this paper is to consider the situation with respect to the European portion of world wheat import requirements and to examine in this connection the policies being pursued in European countries which affect the import of wheat.

Before doing this it is desirable to have in mind just what part Europe plays in total world wheat import requirements and to consider briefly what the prospects are for increasing exports to the non-European wheat deficit countries.

European countries have in the past accounted for approximately 80 per cent of world import requirements for wheat. The basic reason for this situation is found in the fact that western Europe has relatively greater resources for industry than for agriculture. The industrialization of western Europe and the development of steam transportation enabled that area to tap the lower cost wheat growing regions overseas.

Not only has Europe accounted for approximately 80 per cent of world wheat import requirements in the past; there is little prospect of other parts of the world supplanting it in this respect. To support this view it is necessary only to consider the situation in two other parts of the world which have in the past been of some importance as importers of wheat. These parts are in Latin America and the Orient.

In Latin America the deficit wheat areas are to be found in the tropical and subtropical countries stretching from Mexico on the north to Brazil on the south, including the islands of the Caribbean. These countries account for a little over 50 million bushels of wheat imports, including wheat in the form of flour, annually or, say, 10 per cent of recent world import requirements. By far the most important single importer is Brazil, which has been taking some 35 million bushels of wheat a year in recent years, chiefly from Argentina.

It is possible, of course, that the import requirements of that particular area may increase somewhat in the future with a rise in the standard of living in that part of the world. It is just as possible, however, that its wheat import requirements may decline because of increased domestic production fostered behind tariff walls. With respect to the latter possibility, it is of interest to note that many countries in that region, while not having resources well adapted to wheat production, have nevertheless been fostering an expansion of wheat production by imposing severe restrictions on the imports of wheat and flour. At any rate, because of the predominantly agricultural character of these countries, it is not reasonable to expect that part of the world to play, in the near future, anything like as important a part in the world wheat import picture as industrial Europe has played in the past.

The Orient, mainly China, Japan and the Philippine Islands, constitutes the only other important wheat deficit area outside of Europe. In the 1920's it accounted for about seven per cent of world import requirements, with China much the most important wheat importer in that area. Now, Japan, by expanding production to the level of its requirements, has practically disappeared as an importer of wheat. Chinese imports are much smaller now than formerly, partly because of the disturbed political conditions in that country. But even if we

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assume a peaceful and stabilized situation in China, it is doubtful, to say the least, whether that country will ever become a really important regular importer of wheat. This doubt arises out of two fundamental considerations, (1) that the central and southern parts of the country rely mainly on rice for the diet, while (2) North China is one of the great wheat producing regions of the world being exceeded in this respect only by Russia and the United States. There is no evidence of a significant shift from rice to wheat in the Chinese diet. And, so far as we can see, wheat production is more likely to be expanded than contracted. The Philippines continue to import fairly substantial amounts of flour, but this market is not likely to expand materially in the future. In addition to these countries India occasionally, as in the present season, imports considerable wheat. But in other years it is a substantial exporter.

Taking all this into account, it is difficult to escape the conclusion that the Orient can not be depended upon to expand its wheat imports sufficiently to contribute significantly to a solution of the lack of balance between world export supplies and world import requirements.

There remains, then, only Europe to consider as a market for the world's surplus wheat. And in this consideration it must not be forgotten that two of the important wheat surplus areas of the world, the Danube Basin and the Ukraine, are adjacent to the European deficit areas.

In considering European wheat requirements and policies, it is necessary to take up the situation in the more important countries. Before doing so, however, it will be well to have a look at Europe as a whole, excluding for this purpose the Soviet Union. The 22 deficit wheat countries of Europe imported, during the 1920's, an average of 610 million bushels of wheat annually. In recent years these countries have been importing around 400 million bushels, a reduction of over 200 million bushels or about one-third. In the earlier period the European surplus producers, excluding Russia, supplied the rest of Europe with about 30 million bushels annually; in recent years they have been supplying over 40 million bushels a year.

Therefore, the net European requirements for the wheat of the non-European exporting countries and Russia now amounts to only about 360 million bushels against about 580 million bushels in the 1920's.

What have been the reasons for this decline in European wheat requirements? Has it been due to larger production or smaller consumption? What part have trade barriers and other forms of governmental intervention played in this decline? In order to give significant answers to these questions it is necessary to examine the situation country by country. The countries which it is proposed to consider in this way are the United Kingdom, Germany, Italy, France and, lastly, a group of the smaller European wheat importers taken together.

The United Kingdom is by far the leading wheat importing country of the world. It accounts for a little less than 40 per cent of total world import requirements, or a little more than half of total European requirements, at the present time. It has, for many years, been importing on the average a little over 200 million bushels annually—a few million bushels a year less now than in the 1920's, in spite of the fact that there are more mouths to feed. In the case of the United Kingdom, therefore, the situation is that, while import requirements have declined only slightly, the demand for imported wheat has not expanded with the increase in population.

Up to 1932 the United Kingdom imported wheat free of duty from whatever source. In that year, as a part of Empire preference, it placed a duty equivalent to six cents a bushel on wheat from non-Empire sources. Now it is not likely that this relatively small duty had any measurable effect on United Kingdom wheat consumption. At any rate, the duty has now been removed as a result of the recently completed trade agreement with the United States.

We must look elsewhere, therefore, for the real explanation of the failure of British wheat imports to expand, and we shall find this explanation in the scheme for aiding the home producer. This scheme and its actual operation may be briefly described as follows:

In 1932 the United Kingdom Government passed a Wheat Marketing Act which provided, in essence, a guaranteed price to producers on a specified production of wheat. The funds for making up the difference between what the grower obtained on the market and the guaranteed price are obtained from a tax on all flour milled in the United Kingdom, from either domestic or imported wheat.

When the scheme went into effect in 1932 the guaranteed price was equivalent to around \$1.30 per bushel, and the quantity on which this price was guaranteed was placed at 50 million bushels. In the five years immediately preceding 1932 the average British crop was 47 million bushels.

The guaranteed price has not been changed since that time. But, and this is significant, the quantity of home production on which this price is guaranteed was increased in July, 1937 to 67 million bushels, a figure 43 per cent higher than the average production in the years immediately preceding the inauguration of the scheme.

The actual production of wheat in the United Kingdom during the years 1933 to 1937 averaged 62 million bushels, or about one-third higher than the (1927-1931) average production just before the scheme was inaugurated. Up to the present time this increase in home production has not caused any serious reduction in British wheat imports. Whether they will be affected in the future will depend largely on government policy as to the quantity of production that will be subsidized; although it is obvious, in view of total agricultural resources in relation to population, that a very large proportion of British requirements for wheat will have to continue to be imported.

Italy was formerly the largest importer of wheat in Continental Europe. Its net imports of wheat averaged about 80 million bushels annually during 1923-24 to 1927-28. In the five years ending July, 1937, they averaged only 18 million bushels, a decline of 78 per cent.

This decline in Italian wheat requirements has been due both to increased domestic production and decreased total consumption. In the first place, it may be noted that the wheat producing area of Italy was increased only about five per cent—a little more than a half million acres—between 1926 and 1936. On the other hand, average production increased from around 210 million bushels in the five years ending in 1927 to 263 million bushels in recent years (1932-1936), an increase of 25 per cent. There has been, therefore, a marked rise in the average yield per acre. Incidentally, the Italian farmer has been given a real incentive to maintain or expand wheat production in the form of a guaranteed price, amounting this year to the equivalent of about \$2.00 per bushel.

So far as production is concerned, therefore, it appears that Italy has won the "Battle of Wheat" in those years in which weather conditions are average or better. In years when weather conditions are unfavorable, Italy will have to depend to a substantial extent upon imports of wheat, either from Danubian countries or, if supplies are not available there, from overseas exporting countries.

But another, and apparently more important, factor in the decline in Italian wheat imports lies on the side of consumption. In recent years Italy has pursued a policy of compulsory mixing of substitute flours and meal with wheat flour as, for instance, the present requirement that wheat flour should be mixed to the extent of 10 per cent with corn meal. It appears that, as a result of these and other government policies affecting the quality and price of wheat products, Italian wheat consumption, on a per capita basis, has declined by about 10 per cent in the last 10 years.

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Even if an abandonment or relaxation of those policies which have led to reduced consumption should take place, it is not likely that there will be any material change in the policy directed toward increased wheat production. Consequently it is impossible to count upon Italy becoming a customer for overseas wheat on the former scale.

Germany was formerly the second largest wheat importing country in Continental Europe. Its net wheat imports averaged about 70 million bushels annually during the twenties. In the five years ending July, 1937, they averaged eight million bushels, a decline of 89 per cent. In the present year German production of wheat and rye together was sufficient for its total requirements, although some wheat has been imported, partly for special needs and partly for addition to stocks.⁽¹⁾

The explanation of this decline in German requirements for wheat is to be found both in increased production and in reduced consumption.

On the production side, it is noteworthy that the wheat acreage of the country has increased from about four million acres in 1926 to over five million acres in 1936. Apparently a good deal of this shift has been at the expense of feed grains, such as oats, the acreage of which has declined. Wheat production has increased from an average of 106 million bushels in the five years ending in 1927 to 178 million bushels in the five years ending in 1936, while the 1938 crop is estimated at nearly 200 million bushels.

As in the case of Italy, German farmers have been encouraged to grow more wheat by the establishment of favorable guaranteed prices. This year the German farmer is assured a price equivalent to more than \$2.00 per bushel.

On the side of consumption the most important thing to note is that rye has always been an important alternative breadstuff in Germany. Furthermore, Germany has been historically a surplus producer of rye. Consequently, under a regime such as now exists in that country it is quite feasible for the government to bring about a shift to larger consumption of rye for human food. This has been done through requirements as to the mixing of rye flour and wheat flour for human consumption. The admixture of corn meal and potato flour has also been employed to conserve bread grain.

There is another important aspect of the German situation which should be mentioned at this point. This relates to the increasingly close economic ties between Germany and the countries of the Danube Basin, which, as has been pointed out, constitute the surplus wheat producing region of Europe. There has already been a definite tendency in the direction of encouragement by the German government of increased production of foodstuffs and raw materials in that region for the German market.

The situation with respect to the German wheat market may, therefore, be summarized somewhat as follows. In years when growing conditions are reasonably good Germany can now produce the great bulk, if not all, of its requirements for bread grain, especially when account is taken of the possibility of requiring the substitution of rye for wheat. As regards the situation in years when weather conditions are not favorable, it will usually be possible for Germany to make up its requirements through importation from the surplus producers in the Danube Basin, or, perhaps, from Poland.

It may be concluded, therefore, that the prospects of Germany's returning to the position it occupied during the 1920's as an importer of wheat from overseas countries are not at all bright. Probably the best that could reasonably be expected

(1) It should be understood that these remarks as to German requirements apply to the situation before the absorption of Austria and Sudetenland; their inclusion within the German Customs Union adds to German requirements, since they are both wheat deficient areas, but it does not, of course, add to total European requirements.

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would be that Germany would be willing to take, subject, of course, to fluctuations in domestic and Danubian supplies, a relatively small amount of high quality overseas wheat for mixing purposes.

France is one of the largest wheat producing countries in the world. Because of this fact it has never been possible for overseas exporting countries to look upon France as an assured, regular outlet for substantial quantities of wheat. In pre-war years France occasionally imported large amounts of wheat in seasons when weather conditions in that country were bad, but in other years it might have a small surplus due to unusually good growing conditions. In the decade of the twenties French wheat production averaged less than before the war, but in the latter half of this period production approached pre-war levels. During the five years ending July, 1928, net imports of wheat into France averaged about 53 million bushels a year. During 1932 to 1937 French net imports averaged 10 million bushels and in the 1934-35 season exports considerably exceeded imports.

The historic policy of the French government with respect to wheat has been to maintain sufficient protection against imports to assure remunerative prices to the French producer. In recent years, with occasional substantial export surpluses, it has not been possible to maintain prices through the relatively simple method of restricting imports. Consequently, the French government has taken over the marketing of wheat as a governmental monopoly. Foreign trade in wheat is subject to direct governmental control and French wheat producers are guaranteed a definite price per bushel, equivalent in the current season to an average of about \$1.50 per bushel.

So far as the future is concerned, it is not reasonable to anticipate a substantial, regular outlet in France for overseas wheat. It is possible that French wheat acreage might decline—it is now about four million acres less than the pre-war average, although increased yields per acre have more than compensated for this reduction. On the other hand, the relatively high guaranteed price encourages farmers to keep the acreage up. In any case, it is not likely that France would want its wheat production significantly below domestic requirements.

Italy, Germany and France taken together account for about 80 per cent of the drop of 200 million bushels or more in European requirements. In none of them is there any reason to expect a substantial increase in wheat requirements except in years when weather conditions are extremely unfavorable; in other words, it is not possible to count upon them as regular customers for substantial quantities of wheat as was the case in the 1920's.

So far as the minor European wheat deficit countries are concerned (that is, excluding the United Kingdom, Germany, Italy and France), it may be stated in general that each of them has been restricting imports of wheat and encouraging domestic production. The result has been that, taken as a group, the requirements of these minor deficit European countries have declined something like 45-50 million bushels a year.

The smallest decline in imports has occurred in the Low Countries, that is, Belgium, the Netherlands, and Denmark. It appears that in recent years these countries have been supplying approximately 38 per cent of their requirements out of domestic production, as compared with 27 per cent in the 1920's. In terms of quantity, the decline in net imports has been around 1.5 million bushels a year. In northern Europe, that is, the Scandinavian Peninsula and the Baltic States (excluding from the latter Lithuania, which is a surplus wheat producer) there has been a decline of about 10 million bushels a year in total net wheat imports. The domestic production in these countries is now supplying about 75 per cent of their wheat requirements, as compared with 42 per cent in the 1920's.

Even before the transfer of the Sudeten territory to Germany, Czechoslovakia had become virtually self-sufficient in respect to wheat, although it imported over 20 million bushels a year during the 1920's. With the loss of the Sudeten territory,

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which is predominantly industrial, it seems certain that Czechoslovakia will no longer be in the market for imported wheat. In fact, it may, at least in years of favorable growing conditions, have a small surplus for export to Germany.

In southern and southwestern Europe the deficit wheat producers are Portugal, Spain and Greece. Even before the outbreak of the Civil War in Spain these countries together had reduced their imports of wheat by approximately 8.5 million bushels a year, compared with the imports in the 1920's. Because of increased wheat production, especially in Portugal and Greece, these countries have recently been supplying 92 per cent of their total requirements against 86 per cent in the 1920's.

Considered as a group, there is probably a better prospect for restoring lost markets in these minor European countries than in the larger ones previously discussed. At any rate, it is altogether possible that some of them at least, such as Belgium, the Netherlands, and the Scandinavian countries, might become just as important as importers of wheat in the future as they have ever been in the past. This would depend, of course, primarily upon whether these countries are able to find a market for their own agricultural and industrial surpluses. But if these countries should return to their former position, which is surely the best that could be hoped for in the next few years, there would still be a large diminution in European requirements for overseas wheat.

Now these are the hard facts of the situation. It is clear that European wheat requirements have shown a marked decline. It also seems clear that this has been due mainly to government policy directed toward stimulating home production and restricting consumption and imports. It is important, therefore, to get some idea as to the motives back of these government policies.

There are, it seems to me, three principal explanations of these policies: (1) the desire to maintain returns to domestic producers at times when world prices have been extraordinarily low and, in this connection, to maintain as large a population as possible on the land, (2) the necessity, from the standpoint of balances of international payments in the individual countries, for a reduction in imports at a time when exports were falling, and (3) the desire for larger production from a military point of view.

These three motives have played a greater or smaller part in determining the policies of the individual countries. They have probably all played some part in each country.

Assuming that these have been the principal factors underlying governmental policies which have led to restrictions on wheat imports and in many cases reductions in consumption, it becomes important to come to some conclusion as to whether these factors are likely to continue to operate in the future. It is, in fact, largely on the basis of our conclusion with respect to this point that we must come to our general conclusion in regard to the future of European import requirements for overseas wheat.

Taking first the factor of maintaining prices to domestic producers, there would appear to be no logical reason for thinking that this factor will not continue to operate just as forcibly in the future as it has operated in the past. The governments of the deficit European wheat producing countries will undoubtedly be just as anxious to maintain prices to their producers as they have always been. Now this does not mean, of course, that wheat imports need to be entirely excluded in order to accomplish this purpose. What it does mean is that when world prices are extremely low (and world prices are determined by the relation between world supplies and world demand), it may be expected that virtually all of the European wheat deficit producing countries will maintain restrictions on imports either in the form of high tariffs or in the form of quotas or mixing regulations, the effect of which will be to insulate the domestic producer from the impact of these low world prices. On the other hand, when world prices are relatively high as they were

during 1936 and 1937, for instance, largely because of extremely short crops in North America, it is to be expected that import restrictions will be materially lessened in some of the wheat-importing countries. That is what actually happened in 1936 and 1937. But the restrictions shot up again this year with the fall in world prices.

As to the second factor determining government policy, namely, the balances of international payments of the individual countries, about all that can be said is that if the wheat importing countries are successful in regaining and expanding their outlets for industrial and certain specialty agricultural products, they will be in a stronger position to import wheat and will be more inclined to reduce their own restrictions on wheat imports than they otherwise would be. On the other hand, it may be argued that, in view of the current re-armament race, increased foreign exchange resulting from larger exports may be used for purchases other than wheat. A forecast on this point is extremely difficult. There are influences at work in the direction of more liberal trade policies as is evidenced by the commercial policies of Canada and the United States. But this is not by any means a universal tendency. Probably the best that can be said now is that, so far as the next few years are concerned, it does not seem likely that the major Continental European wheat importing countries will be able to increase their exports in relation to their imports sufficiently to provide a sound and lasting basis for a resumption in their imports of overseas wheat.

It is the third factor in the situation with which the wheat exporting countries have to be mainly concerned. This is the factor of military considerations as an explanation of restrictive wheat import policies. It appears at this particular moment that these considerations are very much in the forefront and it is impossible to say when they will recede into the background as a factor influencing government policy. It can, however, be said with assurance that until these considerations do recede there is very little prospect indeed for a sufficient relaxation in governmental policies influencing the importation of wheat to bring about a marked revival in the demand for overseas wheat on the part of some of the most important potential European wheat importing countries.

The situation with regard to European wheat requirements, therefore, seems to boil down to this. The wheat imports of the United Kingdom, the world's greatest importer, have declined only slightly in the last ten years but such increase as may have occurred in wheat consumption has been supplied by larger domestic production. The wheat requirements of Italy and Germany, formerly the great wheat deficit countries of Continental Europe, have declined by something like 150 million bushels in the course of the last decade and there is little likelihood of any considerable part of these imports being restored in the near future. France has not been, historically speaking, an important regular importer of wheat and it is likely to be less important in the future than it has been in the past. The import requirements of other European countries have declined considerably but these requirements might return to their former higher level if they could secure larger outlets for their own industrial and agricultural products. In general, this reduction in wheat imports in the various European countries has been due to expansion in production and reduction in consumption, influenced directly by governmental policies. Moreover, in their determination to keep out wheat imports European governments have not relied solely on the relatively simple instrument of the tariff but have employed such potent weapons as quantitative restrictions, mixing regulations, or outright governmental import monopolies. The prospect for a sufficient modification of these policies to bring about a decline in production and an increase in consumption is not good.

Furthermore, it should be noted that the adverse effect of these policies on wheat imports has been reinforced by two other influences: first, the progress of agricultural technique which has facilitated increased wheat production in the importing countries and, second, by the slowing down of the growth of population which is making large-scale wheat imports less pressing than during the

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nineteenth century when the European population was rapidly increasing. The stationary or declining population in western Europe, predicted in the near future by many authorities, makes the outlook even more gloomy for the overseas exporting countries.

That is the picture of European wheat imports as I see it. My conclusion is that exporting countries cannot count upon a return to the level of the 1920's in the European or in the world import requirements for wheat.

If this is the correct picture of the situation, it is important to consider it with respect to available present and future surplus supplies of wheat in the exporting countries. That subject does not fall within the scope of the present discussion but I should like to suggest, on the basis of considerable study of the matter, that the present wheat acreage of the exporting countries will in years of ordinary weather conditions, such as 1938, produce at least 250 million bushels more than the importing countries are prepared to take. With the maintenance of the acreage in the exporting countries anywhere near the level of 1938, the only thing that could prevent such excessive production would be the kind of droughts over extensive areas that occurred in North America in the period from 1933 to 1937.

THE CHAIRMAN: LADIES AND GENTLEMEN, on your behalf I want to thank Dr. Wheeler for a very clear statement of the situation with respect to wheat in European countries, the reasons which led up to the situation which now exists, and the prospect of our getting back any of the lost markets. We can take a little while for discussion of each of these papers or we can wait until all the papers on wheat have been presented and then have time for questions or discussion on any or all of them together. Unless it is your wish to ask questions or discuss each paper as it is given I suggest it is better that we proceed and hear the paper on "The Wheat Problem of the United States," and then a very brief statement on the Australian problem and Argentina's problem, and after that take such time as we have to discuss this question as a whole.

MR. BROCKINGTON: Before you go on may I make one suggestion?

THE CHAIRMAN: Yes.

MR. BROCKINGTON: My memory of the conclusions of Dr. Sanford Evans yesterday is that because of the general increase in population the Canadian wheat problem was not as black as otherwise it might appear; my impression from the conclusions of Dr. Wheeler this morning is that because of population reduction the picture is as black as it does appear. I am going to suggest to you that you ask one of the economists available for the services of the government, before discussion and final crystallization of the matters in question, to give us some statistics on population trends in importing countries. I would think that would be a logical thing to do.

DR. WHEELER: I would like to say that my statement referred to the reduction in the rate of increase in the population comparing the rate of increase now with the 19th century when there were great imports of wheat. I did not say that the population was actually declining in Europe at the present time.

THE CHAIRMAN: That the rate of increase was lessening.

MR. BROCKINGTON: Mr. Evans pointed out that with the increase in the world population the prospect for wheat in the future is probably not as dark as it might appear to some. The suggestion is that some of the economists present give a little thought to that. Perhaps we might have a brief discussion on it some time before we get through with this subject.

THE CHAIRMAN: As I said in introducing Dr. Wheeler, the United States Department of Agriculture has been very generous in the co-operation they have always extended to us on any agricultural problem, and that department has in the past made great contributions to the development of western agriculture. You are

all familiar with rust-resistant wheat that came to us from Minnesota. I might enumerate many other ways in which they have been of assistance to us. We have had no tariff on the importation of good ideas from the United States. Today we have with us Mr. Evans, the director of the Agricultural Adjustment Administration of the United States Department of Agriculture. The AAA is one of the forward-looking programmes of a forward-looking government, involving an attempt by that government to try to keep the income of agriculturists in something like a right relationship to the income of other people, and to adjust their acreages to market requirement. Mr. Evans' department is also engaged in a programme of decreasing the percentage of soil depleting crops and increasing the percentage of soil conserving crops. I just mention this to give you some idea of the important position that Mr. Evans holds in the United States Department of Agriculture. Mr. Evans will speak to you on "The Wheat Problem of the United States." Mr. Evans.

THE WHEAT PROBLEM OF THE UNITED STATES

by

MR. R. M. EVANS

ADMINISTRATOR OF THE AGRICULTURAL ADJUSTMENT ADMINISTRATION, U.S. DEPARTMENT
OF AGRICULTURE, WASHINGTON, D.C.

MR. PREMIER, LADIES AND GENTLEMEN:

I am doubly happy to be with you today and to take part in this conference. In the first place, I am glad to be in Canada. For many years I have been interested in Canada, and particularly in the province of Manitoba, and its neighbor, the province of Saskatchewan. I used to have some wheat land in Saskatchewan and I have bought a good many head of cattle in Manitoba. It is always pleasant to return to familiar country and to see familiar faces.

Then, too, I am happy to be here because the very fact that this conference is being held is encouraging. I understand, Premier Bracken, that it is a conference for the collection and the spreading on the record of facts about agricultural production and distribution. If this is correct, then I am especially glad to be here. Our experts know a great many facts about agriculture, but I'm afraid that many of the basic data are at the best only dimly understood by the public in general. I believe that to understand a problem one must be aware of the facts about that problem. Hence, I am glad to assist in making available some of the basic facts about American wheat production.

The wheat problem in the United States must be considered in the light of the world wheat situation, because the United States is and always has been a surplus-producing nation. The United States has been a net exporter of wheat every year since the signing of the Constitution, except in 1837 and in the years of 1934, 1935 and 1936, when our country experienced unprecedented drought. At no time in recent years has the acreage seeded to wheat in the United States been reduced to an area which, with average yields, would not have produced a surplus for export, and it does not seem likely that any practicable domestic policy would result in an acreage low enough to enable the United States to withdraw from the export market. The efforts which have been made in the United States to bring about a better balance between our wheat supplies and available domestic and foreign markets have always contemplated the production of a surplus in excess of the requirements of our people.

In this discussion, therefore, I shall first outline the general world wheat situation as it appears to the United States Department of Agriculture and to the American wheat grower. Second, I shall discuss the wheat situation in the United

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States as a part of this world situation, and then I shall discuss the steps which the United States has taken to assist our wheat producers and to improve the situation in our own country and in the world at large.

WORLD WHEAT SITUATION

The world crop harvested in the Northern Hemisphere during the summer and fall of 1938 and in the Southern Hemisphere this winter is now estimated by our Department of Agriculture at 4,365,000,000 bushels, and is the largest world crop on record. It is at least half a billion bushels more than world requirements. Present indications are that the world carry-over next June 30 will be at least 1,150,000,000 bushels as compared with a little less than 600,000,000 bushels on June 30, 1938. Furthermore, a large portion of the surplus production in the 1938-39 crop year is in the exporting countries. Exporting nations have a surplus of about 900,000,000 bushels in excess of their domestic requirements and normal carry-over. Importing countries, on the other hand, will require only about 550,000,000 bushels for the 12 months ending June 30, 1939.

In their efforts to secure as large a share as possible of the limited import demand for wheat, it is inevitable that keen competition should exist between the exporting countries. With the fourth largest supply in the history of the United States, it has been necessary for our government to embark upon a policy designed to secure a reasonable share of the world wheat trade. Otherwise, the United States would hold on June 30, 1939, a disproportionate share of the large world wheat carry-over now in prospect.

THE WHEAT SITUATION IN THE UNITED STATES

In order to analyze the present situation in the United States, it is necessary that we review the developments during recent years. During the decade of the 1920's, the United States enjoyed reasonably favorable weather conditions and satisfactory export outlets. During the first five years of that decade, net exports from our country averaged 231,000,000 bushels, which represented 31 per cent of the total world trade. During the last five years of the decade, our exports averaged about 160,000,000 bushels, which represented 20 per cent of the world trade. Our seeded acreage during this period was also relatively stable, averaging about 64,914,000 acres for the 10 years 1920-29, inclusive. The large crop of 1928, however, resulted in a carry-over on June 30, 1929, almost double what it had been a year earlier and the ensuing five years were years of extreme surplus and ruinously low prices, not only to producers in the United States, but in other countries as well.

During this period the Federal Farm Board attempted to stabilize prices by purchasing wheat on the open market. The Farm Board also urged producers to curtail their acreage, but there was no effective means of bringing about such a curtailment. The acreage seeded in the United States during the 1928-32 period was no lower than it had been during the decade of the 1920's. Our net exports declined from 142,000,000 bushels for the crop of 1928 to 32,000,000 bushels for the crop of 1932, and the exports for the marketing year beginning July 1, 1932, amounted to only five per cent of the total world trade in wheat.

Beginning with the crop of 1933, therefore, our government embarked upon a programme designed (1) to reduce the burdensome surplus which had helped depress prices to our growers; (2) to increase our exports; and (3) to bring about an improved world situation through the International Wheat Agreement.

The acreage seeded to wheat was reduced from 68,450,000 acres for 1933 to 63,562,000 for the crop of 1934, largely as a result of the adjustment programme under the original Agricultural Adjustment Act which was passed after the 1933 crop was planted. In both of these years, however, as well as in 1935 and 1936, the wheat crop was reduced by unfavorable weather conditions. Because of shortages brought on by the drought and rust, our domestic acreage programme was materially modified. Prices increased in the United States as well as in other countries and dry weather killed out grass and clover, making additional land

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available for wheat. In the face of this situation, the acreage planted in the United States increased from 63,562,000 acres for the crop of 1934 to more than 81,000,000 acres for the crops of 1937 and 1938.

The return of more nearly normal weather conditions and the increased plantings resulted in a 1937 crop above the average and a 1938 crop which was the fourth largest in the history of our country. Total supplies for 1938 are about 1,100,000,000 bushels. These supplies are nearly 400,000,000 bushels in excess of our domestic requirements and even if we are able to secure exports amounting to 100,000,000 bushels, we will have a carry-over of nearly 300,000,000 bushels on the 30th of June, 1939. This would be approximately double the carry-over on June 30, 1938, and more than double the average carry-over of 125,000,000 bushels for the decade of the 1920's. Because of this large surplus in the United States and the enormous surplus in the world at large, prices to our farmers during the fall of 1938 hovered around 50 cents a bushel as compared with more than 90 cents a bushel in the fall of 1937.

STEPS WHICH THE UNITED STATES IS TAKING TO ASSIST THE U.S. WHEAT PRODUCER AND TO IMPROVE THE DOMESTIC AND WORLD WHEAT SITUATION.

The programme of the United States with reference to wheat embodies:

- (1) An export programme designed to hold a fair share of the world market;
- (2) Loans to wheat producers to enable them to hold surplus stocks for limited periods;
- (3) Acreage allotments large enough to produce an amount of wheat adequate for domestic requirements and normal exports but low enough to prevent the recurrence of burdensome surpluses;
- (4) Payments to producers who keep their seedings within their acreage allotments; and
- (5) Wheat Crop Insurance as a part of the Ever-Normal Granary.

In the efforts to maintain exports, the United States first entered into a marketing agreement with exporters and flour millers in the Pacific Northwest in the fall of 1933. 28,400,000 bushels of wheat were purchased by the North Pacific Emergency Export Association which operated under the marketing agreement. 21,800,000 bushels were sold in the form of wheat and 6,600,000 bushels were sold in the form of flour. This wheat and flour were sold at prices lower than prices being paid to domestic producers—the entire cost of operation amounting to about 23 cents per bushel.

The drought and rust of 1934, 1935 and 1936 rendered export operations unnecessary during these years except for a small movement of flour from the Pacific Northwest to the Philippine Islands which has been financed in part by the Department of Agriculture.

Faced with the extreme situation of 1938, it has been necessary for the United States Government to embark upon a much broader export programme than was necessary during previous years. The United States is financing the operations of exporters who find it necessary to sell to buyers in other countries at prices lower than the current market prices paid to domestic producers. This programme, however, aims to export 100,000,000 bushels, which represents a little less than 20 per cent of the estimated net exports of all countries for the 12 months ending June 30, 1939. In view of the fact that the United States exported an average of 31 per cent for the five years 1920-24 and 20 per cent for the five years 1925-29, this objective for the current year appears entirely reasonable.

The programme is designed to maintain for the United States a fair share of the reduced world wheat trade in the face of direct intervention by the governments of all other wheat exporting countries. In this export operation we are look-

ing toward maintaining of returns to wheat producers in the United States while at the same time facilitating wheat exports. It is the sincere hope of our people that governmental financing of exports is only a temporary measure and that some way will be found to bring about sufficient improvement in the world wheat situation so that such action will not be necessary on the part of our government and the governments of other wheat exporting countries.

A second phase of the wheat programme in the United States is the making of loans to wheat producers in years of excessive production and low prices. Under the Agricultural Adjustment Act of 1938 loans are made to wheat producers who have held their seedings within their acreage allotments. The amount of these loans must be not less than 52 per cent nor more than 75 per cent of the parity price, which is now about \$1.11 per bushel. Under this provision, therefore, loans are to be not less than 58 cents nor more than 84 cents per bushel on the average to producers in the United States. These loans enable producers who are co-operating in the acreage adjustment programme to secure loans on their wheat which will enable them to hold their grain until a later date. The loan on wheat for the 1938 crop averages about 60 cents per bushel, which is eight cents to ten cents more than the average farm price during the fall of 1938. Since these loans are not available to all producers, it is not to be expected that they will fix the price of wheat on the open market, but they do provide a distinct advantage to the producer who is co-operating in the adjustment programme.

The third phase of the wheat programme is embodied in the acreage allotments. The attempt to curtail acreage in the United States goes back to the Federal Farm Board, which was mentioned previously. Efforts of the Farm Board were persuasive in character and were not accompanied by any special inducement to the individual grower to reduce his acreage. Under the Agricultural Adjustment Act of 1933 the secretary of agriculture entered into contracts with wheat producers under which the producer agreed to make a reduction not to exceed 20 per cent of his average seedings for the three years 1930-32. These contracts were held invalid by the Supreme Court in a decision of January 6, 1936.

Under the Soil Conservation and Domestic Allotment Act which was enacted by Congress following the Supreme Court decision, the major emphasis was placed upon increasing the acreage of soil-conserving crops. The programmes for 1936 and 1937 under this Act did not contain any specific provisions for control of wheat acreage.

In the spring of 1938, Congress passed the Agricultural Adjustment Act of 1938, in which the policy and provisions for a voluntary acreage adjustment programme are much more clearly defined than in any previous legislation. This Act did not become a law until after most of the 1938 wheat crop had been seeded and did not attempt to reduce the acreage of that crop. For 1939, however, wheat acreage allotments were issued to wheat growers before they had completed their seeding operations. Indications are that acreage allotments and lower wheat prices have brought about a marked reduction from the abnormally large acreages of 1937 and 1938, but it does not appear likely that any inducement which could be offered to the American wheat grower will cause him to reduce his acreage to a point where, barring extreme weather conditions, the United States will have less than 100,000,000 bushels for export annually.

In fact, the provisions of the Agricultural Adjustment Act of 1938 require that the acreage allotment each year be sufficient to provide, not only for domestic requirements and normal exports, but also for a reserve supply equal to 30 per cent of the sum of these items. An allotment as small as the 55,000,000 acres established under the provisions of the law for 1939 was made necessary only because of the exceptionally large supply on hand for the current year. With average yields of 12 bushels per seeded acre, normal domestic requirements, and exports, of 750,000,000 bushels can be produced on 62½ million seeded acres. This acreage, which may be considered a "normal" objective for the United States, represents a reduction from the acreage planted during the decade of the 1920's only to the extent that the world trade in wheat has been reduced from about 800,000,000 bushels to less than

600,000,000 bushels. The acreage policy of the United States reflects our proportionate share in the decline of total world trade. The acreage policy does not represent an effort on the part of the United States to withdraw from the export market. Furthermore, while the United States is taking an important step toward readjusting world wheat acreage to the existing world situation, our country cannot be expected to make a drastic curtailment in wheat acreage in the absence of similar action on the part of other exporting countries.

A fourth phase in the wheat programme of the United States is the making of payments to producers who have co-operated in the acreage allotment and conservation programmes. Under the Agricultural Adjustment Act of 1933, such payments were based upon the difference between the average farm price and the parity price for the marketing year during which the payments were made. The parity price is the price at which wheat would have to sell to give the commodity the same purchasing power with reference to articles which farmers buy as wheat had during the pre-war period 1909-14. These parity payments under the Wheat Programmes of 1933-1935 were made only on the domestically consumed portion of the crop. Under the Agricultural Adjustment Act of 1938, payments are computed on the basis of the normal yield of each producer's acreage allotment. The payment for 1939 is 17 cents per bushel of the normal yield of the acreage allotment. The Congress has appropriated an additional amount for parity payments on wheat, corn and cotton from which wheat producers will receive another ten cents per bushel. Therefore, the producer who holds his seedings within his allotment for 1939 will receive a payment equal to about 27 cents per bushel of the normal yield of his acreage allotment.

This means that, combining the loan on wheat and the benefit payments, the co-operating wheat farmer will be getting about 85 cents a bushel for his wheat. And this figure, taking into account the low price at which wheat is being sold in the export market, means that the farmer should realize approximately one dollar a bushel, or only a little under parity, for the wheat produced in this country for human consumption.

A fifth phase of the domestic wheat programme in the United States is that of providing all risk crop insurance to producers who co-operate in the adjustment and conservation programmes. Premiums are based upon the risk involved in producing wheat in each locality and on each farm. In paying his insurance premiums the producer delivers to the Federal Crop Insurance Corporation the number of bushels of wheat (or its cash value) called for in the insurance policy. The Crop Insurance Corporation holds stocks of wheat equivalent to the premiums which have been paid in and is prepared to deliver the wheat (or its cash equivalent) to the producer at any time drought, hail, rust or other unavoidable natural causes reduces his yield below 75 per cent of normal. Under the Crop Insurance Programme, supplies of wheat will be accumulated during years of favorable weather and will be available to producers during unfavorable seasons. Thus, the Crop Insurance Programme fits in as a part of the Ever-Normal Granary Programme of accumulation of reserve supplies in years of plenty for use during years of scarcity.

No discussion of the wheat problem in the United States would be complete without a final comment upon the attitude of the producer toward this programme of (1) export assistance, (2) emergency crop loans, (3) acreage adjustment, (4) parity payment, and (5) crop insurance. The wheat farmer of the United States is characteristically an independent sort of individual. This is true also of the wheat farmer in Canada and is true to a greater or lesser degree of most wheat producers throughout the world. He will make changes in his farming operations as a part of a general programme of co-operation to meet an emergency situation. Faced with declining prices and reduced income, he will be willing to do his part in an effort to correct the situation. But many wheat growers in the United States have land and equipment which is suitable only for the production of wheat. If his acreage allotment is lower than he finds it possible to meet and still have a reasonably efficient use of his land and equipment, not to speak of his own time, he may refuse to keep within his allotment. For the reasons which I have discussed, it is not

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possible for us to reduce our wheat acreage to a point where the United States would cease to be a major exporting nation. Until such time as world conditions improve so as to enable the wheat grower of the United States to secure a fair price without assistance from the government, the American wheat grower will demand that the government continue to furnish to him such assistance as may be necessary to enable him to secure a reasonable share of our national income and a reasonable share of the world trade in wheat.

THE CHAIRMAN: Thank you, Mr. Evans. We have made very good time this morning and I am going to ask your permission to change the programme slightly to your advantage. We have a paper on "Export Markets for Canadian Flour" which is slated for this afternoon and I am going to suggest that we deal with the flour situation this morning, and then we can take two full hours this afternoon and devote it wholly to discussion of these different papers on wheat. So I will now call upon Mr. C. H. G. Short, general manager, Lake of the Woods Milling Company from Montreal, to talk to us on export markets for Canadian flour. Mr. Short.

EXPORT MARKETS FOR CANADIAN FLOUR

By

C. H. G. SHORT

GENERAL MANAGER, LAKE OF THE WOODS MILLING COMPANY, MONTREAL, QUE.

MR. CHAIRMAN, LADIES AND GENTLEMEN: I very greatly appreciate the opportunity to address you and felicitate the Premier on the inspiration that resulted in the calling of this meeting. Anyone who entertained any thoughts of cynicism at all would find that cynicism very quickly dispelled if they were present at this meeting and see the earnest study group so anxious to acquire knowledge.

In reviewing the situation, present and prospective, in regard to wheat, it is highly essential to consider, too, all the circumstances, conditions, hopes and disappointments in relation to the export of flour milled from Canadian wheat. I feel that while the western producer generally realizes that Canada's flour export trade is a matter which must be considered in a review of the wheat problem, he will be occasioned some degree of surprise to learn how great a part the milling industry has played in aiding sales of Canadian wheat, and how the restriction of flour exports militates against his interests.

In discussing the prospects in regard to both wheat and flour I shall be giving my individual and personal opinion, which may or may not be shared by my fellows in the milling industry.

The importance of Canada's flour export trade to Canada's wheat producing interests is today accepted and admitted by all concerned in or connected with the ever increasing problem in respect to the export marketing of Canada's wheat crop. In view of the universal acceptance of the facts, I shall not waste the time of this gathering in developing that argument, which is so well known to you all and is accepted as a cardinal principle.

Let me just say that the development of flour milling in Canada to its present large scale ensued upon the production of Hard Spring Wheat in the Prairie provinces. The milling industry is not merely close to, but is actually part and parcel of the agricultural interests of the Dominion. At the present time, despite the unfortunate restriction of Canada's flour export, the milling industry of Canada still consumes approximately 70 million bushels of Canadian wheat, and during the peak years of the flour export trade was responsible for the consumption of approximately 100 million bushels.

It is the product manufactured from a raw material which determines the excellence of that raw material. The excellence of Canadian wheat found its

greatest amount of recognition from the excellence of Canadian flour, which through the energy, enterprise and initiative of the Canadian milling industry blazoned a path to many markets and did more than any other factor to create a world-wide demand for Canadian wheat. The quality of our exported flour was such as to create, through its employment, a quality standard in the overseas markets which compelled British and foreign millers to use a greater amount of Canadian wheat in their mill mixtures to withstand and combat the competition of Canadian mills.

For 40 years or more Canadian flour has been the advance guard carrying the banner advertising and demonstrating the excellence and incomparable qualities of Canadian wheat, and has, I venture to submit, earned for Canadian wheat its premium value in relation to other wheats. It naturally follows, therefore, that the interests of the Canadian milling industry are as much a concern to the wheat producer as the interests of the wheat producer are a matter of grave and paramount concern to the Canadian milling industry. The problems present and future of the wheat producer and the miller are not merely related—they are inextricably interwoven, to such an extent that the wheat producer and miller should regard their interests not as wheat or flour, respectively, but should both always regard them involved in the question of wheat and flour.

Moreover, the dairy and cattle raising sections of our community have a related interest in the milling industry by reason of the availability and price of mill offals, dependent upon the export production. By way of example, in 1929 the Canadian consumption of mill feeds amounted to 756,423 tons, of which 48.7 per cent, or 368,876 tons, resulted from the Canadian mills grind for export. In 1937 the Canadian consumption of mill feeds amounted to 513,719 tons, of which 27.6 per cent, or 141,649 tons, were provided through Canada's export flour production. The obvious deduction is that with a dwindling of Canadian export the availability of mill feeds from the domestic grind alone would be insufficient to supply these requirements, and the second deduction is that the scarcity would result in higher prices for these by-products.

In dealing with Canada's export flour trade, I feel that it is necessary that the situation should be reviewed in retrospect before there can be any proper appreciation of the present situation or of future prospects. In approaching a study of the matter it appears to be advisable to divide the history of the milling industry to date into four periods, the first being the early development period prior to the world war—that is from 1901 to 1914; the second, the world war period from 1914 to 1919, when all exports were under government control; the third, the post-war reconstruction period from 1919 to 1929; and the fourth, the world depression and recovery period from 1929 to 1938.

First, the early development period shows from 1901 to 1914 an increase in flour exports from 1,187,059 barrels to a total of 4,666,267 barrels, or an increase of 3,479,208 barrels, representing an increase of approximately 300 per cent. The wheat equivalent of the flour exports in 1901 was approximately 5,223,000 bushels, which represented 9.3 per cent of the 1900 wheat crop of 56,000,000 bushels. It will of course be understood that the flour exports of any given year are milled from the wheat crop of the preceding year. From 1900 up to 1914, apart from one or two set-backs, there was a steady increase in flour exports; in 1909 it had reached the two million total; in 1910 and 1911 it was well over the three million mark. In 1912 and 1913 over the four million mark, until it had reached in 1914, as I have said, 4,666,267 barrels, which represented a wheat equivalent of approximately 20,531,000 bushels, which in turn represented 8.8 per cent of the 1913 wheat crop.

In the meantime the invested capital in the milling industry, which in 1901 was approximately \$15,000,000, was shown in 1914 to be in the neighborhood of \$57,000,000.

In the second, or world war period from 1914-1919, the average annual exports of flour mounted to 8,261,763 barrels. For the year 1915 there was very little increase over the 1914 total, but in 1916 it jumped sharply by three million barrels. In 1917 the figure was held, and in 1918 it amounted to 10,826,777 barrels. During

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this period the distribution of Canadian spring wheat flours among the European nations undoubtedly paved the way for development of business by the mills when de-control came, and they were again in the position to establish their own connections and capitalize upon their own individual initiative and enterprise.

The invested capital of the milling industry had by this time increased to some \$66,000,000 with a daily capacity of 134,703 barrels.

In the third, or post-war reconstruction period from 1919 to 1929, we see the growth of the milling industry to the attainment of its peak position of export sales, which was reached in the year 1924 with a total of 11,990,842 barrels, or a wheat equivalent of approximately 52,760,000 bushels. It is interesting to note that during the last seven years of this post-war reconstruction period, i.e. 1923 to 1929, the annual exports averaged 10,723,661 barrels and that even in 1929 the wheat equivalent of the flour exports represented practically nine per cent of the enormous crop of 1928, which was in the neighborhood of 566,000,000 bushels.

Here may I interject that the figures which I employ as being the wheat crop of any particular year, comprise all wheats grown in Canada—not merely the crop of the Prairie provinces.

To come to the fourth, or world depression and recovery period from 1929 to 1938. The decline in flour exports amounted to 7,920,057 barrels, or a wheat equivalent of approximately 35 million bushels. For the year ended 1938, the flour exports in barrels amounted to 3,607,318 as against 11,527,375 barrels in 1929. Inasmuch, however, as the year ending August 31, 1938, was an exceptional year by reason of the fact that Canadian spring wheat was, due to crop failure, the most costly in the world, it would perhaps be more relative to use as a comparison the previous year—1937, and point out that the decline in exports from 1929 to 1937 was 7,100,830 barrels, or a wheat equivalent of approximately 31 million bushels. It is to be noted, and is notable, that the effect of the depression was immediate, as 1930 compared to 1929 saw a decrease of 4,765,365 barrels, with a subsequent loss during the next seven years of a further 2,335,465 barrels.

The invested capital of the milling industry had by this time fallen to approximately \$60,000,000, and productive capacity had been reduced to 102,000 barrels per day, a decrease of practically 25 per cent.

Compared to the other periods and other years we find at the end of 1937 the following adjustment rules:

From our peak year 1924 there is a decline of approximately 7½ million barrels, representing approximately a wheat equivalent of 33 million bushels, but from the year 1914 there is a decrease only of 239,722 barrels, or an approximate wheat equivalent of one million bushels; so for the year 1937 we were back to a volume of export flour sales which was slightly less than the point we had reached prior to the world war. The mills find themselves practically in the position that they had attained through their own selling efforts, without the adventitious aid of war demands or fortuitous circumstances which ruled as a result therefrom in post-war chaotic markets which they temporarily enjoyed during the intervening years up to the depression. From which I personally am of the opinion that the milling industry cannot hope or expect to again reach or approximate the average exports of 1923 to 1929 except in the unhappy event of a recurrence of the world conditions which ruled in that post-war period, which in turn were attributable to the world war period which preceded it.

The reasons for my belief will be advanced when I deal with the individual markets specifically.

In demonstrating the part which the flour milling industry has endeavoured to play in keeping Canada's flour and wheat in their position in the world's markets, I would refer specifically to the year 1938, perhaps the most difficult year encountered by the milling industry, when despite the fact that owing to our short crop our prices were inordinately high compared to other wheats, the equivalent of flour exports still represented 8.4 per cent of the wheat crop. When one con-

siders that this compares with 9.3 per cent in 1901 and nine per cent in 1929, it will be easy to understand the heavy loss sustained in the past year by the Canadian mills in their determination to keep their brands upon the market despite almost insuperable competition.

In approaching the individual markets and discussing our prospects in regard to same, it is perhaps best to first analyze the distribution of our flour exports showing the trend from 1901 through the war and post war periods to the present time. In 1901 71 per cent of Canada's export flour sales went to Empire countries. In 1914 the percentage remained practically the same, being 74.4 per cent. In 1929, however, when by reason of the adventitious and fortuitous circumstances to which I have referred we were enjoying the benefit of what I believe to be temporary markets, the percentage of our total sales to Empire markets was 44 per cent. To Continental European markets 26 per cent; to Oriental countries 27 per cent. In 1937 when we had been shaken down to our 1914 position the percentage of our shipments to Empire countries was back to where it was, and represented 79.2 per cent of our sales. Europe had fallen to 5.7 per cent and the Orient to 10.5 per cent. From this it can be immediately deduced that it is imperatively essential to the success of the Canadian flour milling industry, as equally to the wheat producer, that Canada should retain as export flour markets Great Britain, the British West Indies, and should, we believe, by reason of its contiguity be entitled to regard Newfoundland as a natural export market. I shall deal with each of them in turn.

UNITED KINGDOM

In 1901 our exports to the United Kingdom represented 70.2 per cent of our total exports. In 1914 they represented 56.1 per cent. In 1929 they represented 24.2 per cent and in 1937, 52.8 per cent. The actual exports in 1937 to the United Kingdom amounted to 2,336,630 barrels. There was a much heavier trend during the post-war period from 1921 to 1929 when the average exports mounted to 3½ million barrels per annum. Compared to the peak year during this period, when in 1923 we shipped to the United Kingdom 4,697,745 barrels, 1937 shows a decrease of 2,361,115 barrels, or over 50 per cent. The decline dates from 1924—a date which, rightly or wrongly, is set by many as marking the dawn of buyers' hostility or at least resistance to the Canadian wheat marketing policies. We cannot, unfortunately, assume that it is possible to regain our peak position in the United Kingdom. While the British mills have always been keen competitors, the highly organized industry that they have become today through their rationalization scheme undoubtedly blocks the way, particularly when we appreciate the many advantages they enjoy over Canadian mills, which might briefly be summed up as follows:

- (1) Lower-priced Empire and foreign wheats available to them.
- (2) Ten cents per barrel lower ocean freight on wheat as compared with rates which Canadian mills must pay on flour.
- (3) Improved return on their mill offal.

I would point out the full control position in which the British miller stands in relation to the import of both Canadian wheat and Canadian flour to his market. The price of bread is fixed in England automatically by the Food Council in relation to the price of port-milled flour, which latter, of course, is the product of the British miller, the price of which flour is determined by the cost of the wheats which the British miller employs in his mill mix. If Canadian wheat is out of line with his ideas of value the British miller is free to reduce its percentage of admixture in his mill mix. The price of port-milled flour being always in relation to the wheats that the British miller employs, the availability of cheaper wheats to him obviously makes it more difficult for Canadian flour to compete with port-milled flours. Equally obvious it is that the more Canadian flour is successful in finding an outlet against such conditions, the greater is the service that Canadian flour is rendering to Canadian wheat by confronting the British miller with a quality competition which he can only meet with the employment of a higher percentage of Canadian wheat, irrespective of price.

It is therefore a matter of vital importance to the interests of the wheat producer and to the interests of Canada as a whole that Canadian flour shall never be

put under any tariff disability in respect to Canadian wheat entering the United Kingdom but should always be on the same basis. I cannot stress too fully my conviction and belief that the exclusion of Canadian flour from the United Kingdom market, or any further difficulties added to impede its free flow to that market, would redound inevitably in the last analysis to the serious impairment of the Canadian wheat producer's interest in that market.

As the United Kingdom is our biggest customer for wheat and flour, it may be of interest to note the relationship of flour exports converted into wheat in relation to wheat imports.

In 1914 Canadian flour imported into the United Kingdom represented 10.6 per cent in relation to the total of Canadian wheat imported. In 1937 it represented 10.7 per cent.

In dealing with the figures showing exports to the United Kingdom I must point out that in all cases they included the Irish Free State. In 1929 out of 2,790,188 barrels exported, 305,665 barrels were shipped to the Irish Free State. There is no preference whatsoever for us in this market. Imports are controlled by a governmental quota system which has been in effect for the past six years. The purpose lying behind their governmental scheme has been to bring milling production up to consumption. Now that this has been accomplished there is little, or rather, no likelihood of Canadian mills entering this market again.

BRITISH WEST INDIES

To the British West Indies, which includes Bermuda, British Guiana and British Honduras, our exports in 1901 were a mere 3,550 barrels. In 1914 they had risen to 572,349 barrels. By 1929 the total had reached 1,145,013 barrels, but from that time until 1937 we have experienced an irregular decline to 743,689 barrels, a decrease of some 400,000 barrels, or approximately 35 per cent.

Prior to the Canada-West Indian agreement in 1912 the West Indian flour market was divided with American mills. From then up to 1929 Canadian mills held full sway both in respect to flours suitable for the native trade and the better class of baking flour. They enjoyed and still enjoy a preference of 50 cents per barrel with the exception of Bermuda where they now have a 12½ per cent preference. British mills have made tremendous progress in this market since 1930 through the natural advantages they have enjoyed of exchange, apart from the question of freight rates. While the matter of exchange is now more favourable to us than it was, the British mills still enjoy an advantage in freight of approximately seven cents per barrel. The same situation generally applies to Australian flour, although it is only in the last three years that they have made any progress. Their exchange being at a discount of approximately 25 per cent is a factor which is impossible to overcome. They are, however, at a disadvantage in respect to freight rates to the extent of approximately 10½ cents per 100 pounds on current London sterling basis.

Both British and Australian millers have become well established and French flour is also working into some of the islands. The Canadian-West Indian Preference naturally applies to all Empire countries on a basis of 25 per cent Empire product or manufacture. Exchange depreciation, however, is not considered. Without the protection of approximately a 25 per cent depreciation in their currency, Australian flour would likely be out of competition. This happens to be a case, however, where one Canadian industry has to suffer for the major good, for in view of the general advantages accruing to Canada as a result of the Canadian-Australian agreement our Government naturally is not inclined to press for any correction of this condition.

Apart from the Australian and British competition, American flours in the past year have shown some progress, due to the high price of Canadians during that period. We are, of course, at this present time suffering under an aggravation resulting from the unknown effect of the American subsidy on flour, which at the present time amounts to no less than 90 cents per barrel from the Atlantic and 70 cents from the Pacific seaboard. Our own preference under the agreement, as I have stated, is but 50 cents per barrel.

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Inasmuch as our wheat markets have been lower than theirs, we have not unduly suffered in volume from the American subsidy up to the present. Nevertheless it is one more serious threat which must be watched very carefully. It has had one adverse effect on Canadian mills interested, which is that it has forced their prices down to a ridiculously low level in an effort to exclude this probable competition.

The total shipments by the United Kingdom, Australia and France to the West Indies in 1929 amounted to 61,848 barrels. In 1937 their shipments totalled 408,560 barrels, an increase of over 346,000 barrels, as contrasted with the decrease which I referred to previously of Canadian export shipments of approximately 401,000 barrels in the same period.

NEWFOUNDLAND

In 1901 our exports to this market, which by reason of its contiguity has always been regarded by the Canadian mills as a natural market for their products, totalled 220,753 barrels; in 1914 they had risen to 260,889 barrels, and in 1929 to 294,113 barrels. By the year 1937, however, our exports had fallen to 248,633 barrels, a decrease from our 1929 figure of 45,480 barrels, or 15.5 per cent. While comparison with 1929 shows a decrease of only 15.5 per cent to Newfoundland, the largest exports by Canadian mills to this market, which were in 1920 and totalled 425,803 barrels, shows that we have lost actually since the inception of the post-war period 177,170 barrels per annum, or a decline of 41.6 per cent. There has never been any preferential duty here. This Dominion has reverted to the status of a Crown Colony under the government of a British commission. In 1934 the government imported 100,000 barrels of flour for dole distribution, all of which was awarded to British mills. In 1935-36 a part of each purchase was awarded to Canada, but since then the Commission has definitely decided to give their dole requirements to British mills, and all efforts through their Board of Trade on the part of merchants who handle Canadian flours to secure a share of the business have met with no success. Apart from this flour imported for dole distribution an additional small quantity of British flour is imported, but our chief competition comes from American mills. Flour from the United States increased from 14,583 barrels in 1924 to a peak of 120,852 barrels in 1936 and a total of 114,024 in 1937. Our hope of improvement in this market lies in trade agreement and competitive price. The American subsidy is at this time a distinct factor.

OTHER EMPIRE COUNTRIES

There are two other Empire countries which are of great importance, namely, the Union of South Africa and New Zealand, together with Egypt, which if it can no longer be so described, at least comes under the sphere of British influence. In respect to the Union of South Africa, our exports in 1914 amounted to 281,123 barrels. In 1929 those exports had fallen to 69,309 barrels, and in 1937 to an almost irreducible minimum—2,124 barrels. In 1928 new legislation was effected and now wheat and flour may be imported into the Union only on license issued by the Minister of Finance, and every effort seems to be to favour home milling and excluding imported flour inasmuch as very few licenses are issued, and then only for a special grade of flour. There is no remedy to this ruling situation other than by trade agreement.

To New Zealand our exports in 1929 were 66,008 barrels. This had fallen by 1937 to 8,272 barrels, a decrease of 87.4 per cent, and is now completely wiped out. This is the result of the Order-in-Council which was passed in New Zealand on March 11, 1936, prohibiting the importation of wheat and wheat flour except with the consent of the Minister of Customs. These permits—at his power to grant—are totally unobtainable. This market is another one which is lost to us unless trade agreement between Canada and New Zealand can open the doors to us once again.

Now in respect to Egypt, the exports in 1929 were 345,094 barrels; in 1937, 6,628 barrels, a decrease of 98 per cent. Last year, 1938, saw our exports dwindle to a mere 2,023 barrels. At the present time duties on wheat and flour are on a

sliding scale based on the prices quoted in sterling on the London exchange for Australian wheat c.i.f. Egyptian port per ton, which makes the present duty on Canadian flour totally prohibitive. As indicated by the method of the imposition of the tariff, this market has always favoured Australian wheat and flour, and naturally since the depreciation of the exchange they have dominated the situation to an even greater extent.

The advent of milling of our Canadian wheat in bond at Buffalo has given the American mills an opportunity to secure a larger share of the business for the higher grades of flour required, inasmuch as they have the advantage of cheaper inland transportation costs to New York, out of which port the best ocean steamship facilities are available. In 1928 American mills exported 183,447 barrels while their exports in 1937 declined to 178,821 barrels, the decline in Canadian exports in this period was no less than 98 per cent as previously pointed out. This fact should illustrate clearly the advantages in favour of American mills who are in a position to mill Canadian wheat in bond at Buffalo.

There is no doubt that if the present high rate of duty is maintained the small volume of business that even now we are enjoying will entirely disappear, but we feel that our chances of business in this market would to a considerable extent be ameliorated if the duty were set at a more reasonable figure.

With regard to Hong Kong—our exports were 319,416 barrels in 1929 and in 1937 had dropped to 109,341 barrels. This perhaps is best explained by the fact that delivery through this free port has been to a large extent for distribution throughout the interior of China. The recent capture of contiguous territory by Japan may further curtail volume. Low grade flours are chiefly the requirement for this market, although there has been a growing demand for better quality. Our chief competitor here is Australia, due to their lower cost and their exchange position. This year the American government subsidy behind flour exports may make the American Pacific coast mills very formidable contenders.

Regarding the other Empire markets—Malta, Southern and Northern Rhodesia, British West Africa, British East Africa, etc., I will not take up the time of this gathering other than to say that Canadian mills are continually exploiting these smaller markets to the best of their ability, with varying degrees of success. This remark also applies to the non-Empire markets—Azores, Madeira, Belgian Congo and Canary Islands.

For many years the Canadian milling industry has persistently endeavoured to exploit the Central and South American countries but have met with only a limited degree of success. The exports in 1929 amounted to 118,347 barrels; in 1937 they amounted to 92,940 barrels. By way of contrast the United States shipments to this territory in 1937 amounted to 816,098 barrels. The American mills have for a long time been well established in all the South American countries, chiefly owing to their geographical position and regular steamship services from their Atlantic and Pacific Coasts. The United States government has completed trade agreements with most of the South American countries up to the present time, and in accordance with their policy will undoubtedly combine them all in due course, and with ever increasingly closer bonds. This finally may mean the absolute exclusion of Canadian flour unless our government is able to some degree, through trade relations, to match and meet the good neighbour policy of the United States.

There now remains to be dealt with the Continental markets and the Orient. To best understand our present and future situation in regard to these markets we should note our standing in 1914 prior to the world war period, our position in 1929 just prior to the world depression and recovery period, and our position at the present time. Unfortunately, the figures for 1914 are not available from the Bureau of Statistics, as at that time they were not separately kept for the various markets, apart from Empire countries, but from our own experience we know that they were at that time distinctly negligible. In 1929 they had risen to a total of 26 per cent of our flour exports and in 1937 had fallen to 5.70 per cent.

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Let us first examine the 26 per cent figure of 1929 when Canada's export of flour was 11,527,375 barrels. Of this total 2,891,589 were shipped to Europe. The chief markets—Czechoslovakia and Germany—accounted for 1,164,137 barrels out of this total. In 1937 our total exports to these countries were 84 barrels. It is superfluous to give explanation of this lost business. Austria, in 1929, took 49,172 barrels. In 1937 for obvious reasons our exports were nil.

DENMARK

To Denmark, in 1929, we shipped 298,798 barrels. In 1937—546 barrels only. Wheat flour is subject to an import license system in this country, which licenses are embodied in the Danish Exchange Control laws which first came into effect on January 30, 1932, and were enacted after Denmark had abandoned the Gold Standard in practice, and were for the purpose of enabling the government to regulate all imports in favour of any foreign countries and to offer home industries and products any desired measure of protection from time to time. The exclusion of Canadian mills has reacted to the benefit of the British mills insofar as and to the extent that flour is allowed into Denmark and is purely a matter of trading relations between the two countries, or, in other words, a matter of tariff bargaining.

It is doubtful if this market will again be open to Canadian flour unless our government can offer Denmark a "quid pro quo."

FINLAND

Finland in 1929 imported 284,378 barrels of Canadian flour, but this had dwindled until in 1937 there were but 19,585 barrels. Here again it is doubtful if this market will be re-opened to us until such time as tariff preference can be granted to Finland for specific items in respect to which they would wish to benefit in return for the admission of Canadian flour. While actually Canada has an agreement with Finland whereby she is granted favoured nation treatment, nevertheless this is offset by the Finnish internal policies through quotas, etc., whereby they deal with nations who are in a position to exchange trade with them as best suits their own fiscal economy.

NORWAY

In 1929 our shipments to Norway amounted to 445,214 barrels. In 1937 they were shown as 173,332 barrels. In 1938 exports had fallen to 119,210 barrels. Flour and wheat imports into this country are controlled by the Norwegian State Monopoly, established by the law which came into force on July 1, 1929. The Monopoly buys from the cheapest seller. This of course makes competition particularly keen. The main competitors we encounter are the United States, French and British mills. We can only expect to obtain a good share of this business as and when Canadian wheat is selling on a world competitive basis.

HOLLAND

In 1929 our exports were 232,691 barrels. In 1937 they had fallen to 32,117 barrels and in 1938 to 15,084 barrels. The wheat law passed in 1931 in Holland requires a proportion of domestic wheat as determined from time to time, to be mixed with foreign wheat in milling, and flour can only be imported through the flour control office, and for special purposes. A decree made effective August 14, 1933, established Monopoly control of trade in grain and grain products, under which importers must obtain permits from the central agricultural office in The Hague. In 1935, however, late December, a reciprocal agreement was signed between the Netherlands and the government of the United States. The agreement effective 1936 is to continue for three years and thereafter is subject to six months' notice by either party. By this agreement Holland agreed to buy from the mills in the United States five per cent of its annual consumption of wheat flour, i.e., about 30,000 metric tons, which is roughly 360,000 barrels, provided prices are competitive with foreign wheat flour of comparable grade and quality, and also agreed to purchase five per cent of its consumption of milling wheat under similar

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conditions. It is therefore, of course, obvious that for so long as our prices are competitive we should be able to secure a small share of business available, but naturally the agreement will prejudice the importers in favour of American flour. We are earnestly hopeful that the Canadian government may find themselves in the position to effect similar arrangements with Holland to the benefit of Canadian mills.

GREECE

In 1929 our export shipments to Greece totalled 231,190 barrels. In 1937 they were nil. The situation here is one entirely governed by the question of tariff. The ruling high duties being tantamount to an absolute prohibition as far as Canada is concerned. In Belgium, Italy, Estonia, Poland, Sweden, the Azores, Madeira and the Canary Islands the same conditions of high tariffs and home protection of industry apply.

To summarize—in connection with Continental Europe, in 1929 our exports were 2,891,589 barrels. In 1937 they had fallen to 240,481 barrels.

CHINA

Now before coming to a concise summary of the situation as it rules, I would wish to refer to the Orient—and particularly to China. Our exports in 1921 to China were 3,029,516 barrels. In 1937 they were 60,772 barrels and in 1938 the exports had dropped to 37,971 barrels. The future, of course, is entirely dependent upon the results of the present conflict with Japan. The large volume of export to China in 1929 was made possible by our low grade crop in Alberta and western Saskatchewan in the 1928 harvesting, and any future really large volume will depend upon the nature of our crop due to the fact that the demand from this market is almost totally restricted to low grade flours. Exchange will always be another deciding factor, inasmuch as our chief competitors (should normal conditions rule again) will be Japan and Australia, with the American mills always in the offing.

It is interesting to note that according to the latest available statistics the average annual production of wheat in China from 1927 to 1931 amounted to over 940,000,000 bushels. Furthermore, these had grown up 125 modern flour mills with a daily capacity of approximately 100,000 barrels.

Now the summary of our flour exports throughout this period of 38 years, covering the four groups into which this period of time has been divided, seems to show clearly:

- (1) That the only constant factor is our business with Empire countries;
- (2) That while the export to Empire countries during 1929 shows a heavy increase over 1914, the reaction from then to 1937 to practically the same volume that we were enjoying in 1914, seems to suggest some normalcy in our experience of 1914, and abnormal conditions ruling from 1914 to 1929;
- (3) That this conclusion is exemplified by the fact that this period from 1914 to 1929 took us through the world war and the reconstruction period thereafter;
- (4) It also seems to show that the heavy volume in Europe in 1929 was to an enormous degree due to the post war chaotic internal conditions of many markets in Europe and that the heavy volume in the Oriental area was to a large degree a matter of circumstance arising from the large crop of low grade wheat in western Canada.

The countries from which it is not likely possible to regain any portion of the business we have lost, due to their governmental control of imports, and which in any case would only allow flour to enter in extremely limited quantities represent a total loss of approximately 1,267,536 barrels. It governs specifically the following countries: Austria, Czechoslovakia, Germany, Estonia, Poland, Russia, Turkey, Yugoslavia, the Azores and Madeira.

Secondly, the business lost in those countries which have, through protective policies developed their home industry up to a consumption basis at

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least, and to which we will have difficulty in increasing even the limited quantities we now enjoy, represents a further loss of 478,558 barrels. These countries are specifically Belgium, Finland, Italy, British South Africa and New Zealand.

Thirdly, there is a further loss of 1,180,146 barrels in respect to countries where tariffs, other regulations and trade policies are against us, with little possibility of improvement unless through government assistance and negotiation. These countries are: Denmark, Greece, Holland, Sweden and Egypt.

This shows apparently (always dealing with our 1929 figures compared to 1937) a total loss from these three groups of 2,926,240 barrels, to which must be added the decline in exports to China of 2,656,457 barrels, making a total loss of 5,582,737 barrels. If this loss which we have accounted for is taken from our 1929 figures we find we should be entitled to a reasonable expectation of attaining under normal conditions six million barrels, or an improvement of roughly 1½ million barrels over our export figures of 1937.

This is an optimistic estimate and even this can only be brought about by the most favourable conditions, i.e., Canadian position in relation to world competitive wheat costs; the continuance of the preferential treatment in the United Kingdom and Empire countries; a more favourable relationship between ocean rates on flour and ocean rates on wheat; the recovery of volume lost to Empire and foreign competition in the British West Indies which can only be expected if the Canada-West Indian trade agreement is renewed in 1939 on as favourable, if not more favourable, terms; if ocean freights from Britain and Australia are advanced to a basis commensurate with the distance covered compared to Canadian movement and if some plan may be evolved to combat the unfair advantage to Australia on account of exchange.

To recapitulate—the falling off in our flour exports is due primarily to:

- (1) The imposition of tariffs by foreign countries.
- (2) The various quota schemes inaugurated in foreign countries having for their object the regulation of imports of flour in relation to wheat, and

(3) Last, with diffidence, but conviction I suggest the fact that for so long we believed in Canada, and unfortunately acted on that belief that we could exact a price from the overseas buyer in accordance with our own views, quite independent of the rest of the world's ideas of international values. This undoubtedly created resistance in the buyers' market. To this feature to some extent undoubtedly, but to what extent none can state positively, can be attributed the increase of wheat acreage in Europe inclusive of the United Kingdom. According to Broomhall's figures 66,450,000 acres were sown for wheat in 1913-1914 as compared with 77,024,000 acres in 1936-1937, an increase of 17.4 per cent. If we are to sell at all we must sell at all times in competition value for value with other wheats. How we can do this, which is imperative, and under present conditions assure prosperity to the producer, is the great problem; for as long as relative costs and relative productions remain as they are the present export conditions, unremunerative as they are to Canada, will continue, and under these present conditions I personally subscribe to the belief that if the price obtained is inadequate to insure a reasonable return to the western producer the punitive effect should not fall upon him alone. In any case it can not fall upon him alone, for if he is robbed of his purchasing power the West is lost to manufacturing Canada as a market, and in consequence the disastrous effect still falls upon all.

The facts I have submitted in respect to Canada's export flour trade, with the detailed explanation of the situation in various markets, is, on the whole, I admit, pessimistic in regard to the possibility or probability of our ever regaining our peak position in respect to sales. Amelioration of our present position to the reasonable extent I have mentioned is, and may be hoped for, but even to the highest degree that this amelioration can be obtained it will not affect to any sufficiently helpful extent the major problem confronting the West, which is the disposal of its surplus and exportable wheat.

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In going now beyond the question of flour and approaching the question of our wheat problem, I feel that no apologies are due, as none possibly can have a greater interest in a solution of our wheat problem than the milling industry, inasmuch as their own interests are so much involved and their own problem so closely allied.

I would reiterate that the views that I express in this connection are my individual opinions and I do not necessarily give voice to the feelings of my confreres in the milling industry with whom I have not consulted since my acceptance of the invitation to attend this conference.

One naturally first looks for a solution of the whole wheat problem from the Big Four exporting countries acting together on a collective agreement in respect to both production and export. Each of the four countries, however, appears to have its own individual and varied problems and up to the present there seems to have been no possible mutually satisfactory basis of agreement. It appears to be a case of chasing a will-o'-the-wisp to attempt to arrive at any arrangement between the four countries in respect to production, apart from the fact that even if it were possible it is still beyond the power of man to control nature's productive performance by the acre. In this matter man proposes but God disposes.

In respect to agreement between the Big Four exporting countries regarding export quotas, there seems to me to be little chance of a satisfactory working plan being evolved. Apart from the initial and almost insuperable difficulty of arriving at an agreement in respect to basic export quota figures, the widely separated geographical position of the members of the group, their different geographical relation to their common markets, and the varying seasonal harvests, almost certainly insure that difficulty and confusion would soon eventuate in connection with any export wheat quota plan.

It suggests itself that the only way that a quota export plan between the Big Four could be brought about is by the imposition of such a scheme upon the exporting countries by the importing countries, who could bring it about by legislating against the admittance of wheat from any country beyond a specified amount per annum for that particular country. This, however, is altogether too Utopian, for one can hardly expect the buyer to legislate for the benefit of the seller. Any country in so doing would be sacrificing its own present and natural advantage as a buyer whereby through the law of supply and demand it is able to purchase from eager suppliers at the best competitive price. While it is to be hoped that the Big Four between them can find some solution, it does appear to one who is not an economist that the law of supply and demand must rule, and that as a result we are confronted with the ineluctable fact that the other exporting countries are and always will be our competitors, against whom we shall have to wage a fight to the best of our ability to capture new and retain old markets. If it appears likely that the individual and varied interests, domestic and external, of the Big Four cannot be brought into reconciliation to permit of the consummation of a satisfactorily working agreement in respect to export quotas, then the sooner we recognize the fact the better, and we should do all we can to put our own house in order so that we may be in the best position possible to meet the competition with which we are confronted. Personally, while realizing that my opinion is worth very little, I feel that the chances of agreement between the Big Four are extremely remote for a multiplicity of reasons, not the least of which is the varying relations in respect to trade balances which exist between the individual members of the Big Four and the markets in which they are competitors each with the other. In other words, some of our competitors have more of the necessary "quid pro quo" to offer to aid the sale of their wheat and flour.

Unfortunately, in relation to some of our competitors for export in wheat and flour we are not happily situated. By reason of the fact that we are but 11 million people, that all of us in Canada represent a population of about only 50 per cent more people than there are in London or New York alone, we have to face the fact that while we desire to have open avenues to all countries for the disposal

of our wheat surplus, we have little with which to trade to obtain those open avenues. The tariff policy of this country, whether right or wrong, if not incompatible with its imperative need for open markets for its agricultural products, at the least makes it extremely difficult to find and arrange for them.

This is clearly exemplified by the trade balances ruling between Canada and the various groups of markets with which I have dealt in my review of the situation. In respect to the Empire countries, which include the United Kingdom, Irish Free State, British West Indies, Egypt, Hong Kong, British Africa and Newfoundland, visible trade balances in dollars were in Canada's favour to the extent of 66 million in 1901; 97 million in 1914; 267 million in 1929, and 301 million in 1937.

In regard to Continental Europe, inclusive of Austria, Belgium, Czechoslovakia, Germany, Norway, Denmark, Finland, Sweden, Greece and Holland, in 1901 the trade balance was adverse to Canada to the approximate extent of nine million dollars, and 1914 by seven million dollars. In 1929, however, the trade balance was in Canada's favour to the extent of over 104 million dollars, and by 1937 it had fallen considerably but was still in Canada's favour to the extent of 36 million dollars.

In South and Central America in 1901 the trade balance was \$350,000 in Canada's favour; in 1914 it was against Canada to approximately the sum of four million dollars; in 1929 it was in Canada's favour approximately one million dollars and in 1937 it was against Canada to the extent of \$884,000.

In regard to the Orient, comprising China, Dutch East Indies, Japan and the Philippines, in 1901 there was an adverse trade balance of 1½ million dollars; in 1914 an adverse balance of 2½ million; in 1929 the trade balance was favourable to Canada to the extent of 55 million dollars and in 1937 it had fallen to approximately 18 million dollars in favour of Canada.

These figures, I think, show in themselves very clearly how much the overseas markets mean to the wheat producer and miller, and to what an extent in Canada's favour trade balances result from the export of wheat and flour; and also suggest inversely how little Canada has at the present time in the way of bargaining power to insure the free and easy flow of Canadian wheat and flour to the overseas export markets.

It would appear that the only chances we have to experience an amelioration in respect to our present position as regards our wheat surplus production are:

First—to retain and improve our standing in our present markets and to re-establish contacts to the greatest possible extent with lost markets. This is chiefly a matter governed by and dependent upon international tariff relations, except in those cases where nationalistic policies within various countries preclude all possibilities.

Secondly—to lower cost of production.

There is none who would or should subscribe more whole-heartedly than the Canadian milling industry to the axiom that Canada's prosperity is dependent to an enormous extent upon the degree of prosperity enjoyed by the agricultural interests of Canada and notably, of course, by the wheat producer. The purchasing power of the Dominion within, and for that matter—outside, its confines is so much affected by the volume of export of Canadian wheat and the price at which it is exported, subject at all times to the value of the Canadian dollar, that the assertion might truly be made that Canada is far more on a wheat than it is on a gold standard. It is this purchasing power which affects for good or ill, in relation to its increase or diminution, manufacturing and industrial Canada, and in consequence has a great bearing on wages and employment, national revenue, and certainly if last, not least—taxation.

My personal opinion, however, is that any system of support of either agriculture or manufacture which encourages an uncontrolled or unrestricted surplus production above domestic requirements, at a cost of production inconsistent with

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competitive values in the export markets, will not for long bear the light of economic scrutiny. I have said "export markets" advisedly, because a country may legislate rightly or wrongly in respect to a commodity for domestic consumption, but to do so in respect to world markets for its product is beyond its power and all possibility.

Any system of support for the export markets in any country, whether of agriculture or manufacture, gives birth immediately to reprisals by competitors. Subsidy is matched by subsidy until at long last competition is all the more severe and each of the selling countries obtains in consequence a lesser price for its product in the competitive struggle.

The widely varying standards of living which rule in the exporting and importing countries have a great bearing on the question of marketing, also the varying standards of living in the wheat exporting countries affect between those countries their relative cost of production. There is also less differentiation in some of the exporting countries between luxury and necessity than rules in the importing countries. There—what they cannot afford, they decide to do without, looking for a substitute for a commodity which is beyond their purse.

If we are to compete in the world's market we must as soon as possible produce at a cost which will enable us to hold our own and survive under a continuation of that competition with which it appears we are inevitably to be confronted both in respect to wheat and flour. To attain that desired cost of production, many things are involved in our national set-up. Our tariff structures, our cost of government, standards of wages, etc., and everything in fact that combines to make the sellers' view of the worth of a Canadian dollar so much out of line with the buyers' idea of that self-same dollar's worth. It is above all essential that for the long competitive struggle to which pessimistically I assume we are doomed, cost of production should be brought to the lowest point. Can an intensification of mechanization on the farm help us in this connection? How can it be brought about and what governmental aid in respect to this whole question of cost can be afforded to the wheat producer, which in the long run will prove to be a lighter burden for the Dominion as a whole to carry?

The third chance of amelioration of our condition is to receive a preferential treatment at the hands of nature over other countries. I think we can dismiss this quickly by saying it is utterly unreasonable to expect any benefit in this connection other than accrues to us occasionally under the law of average.

The fourth—enlisting and benefiting from the aid of science.

In respect to this last suggestion I think we should all build very high hopes. The aid which agriculture and industry have been rendered through scientific research transcends praise to the same extent that it almost transcends belief. Let us hope that scientific research and ingenuity comparable to that which discovered that rayon and cellophane could be derived from wood, that sugar could be extracted from beets, will discover either new edible or inedible uses for wheat to furnish the much needed further outlets of consumption of our wheat production. It is not a dream—it is well within the realms of demonstrated achievement by science in other fields. If and when scientific research comes to the rescue, great care will have to be exercised—the present condition having been ameliorated, to avoid the creation of the same conditions arising out of the desire to furnish supply for the new demand.

The work of the National Research Council cannot be too highly commended, and our thanks are due to the government for the funds they have supplied for this highly essential and meritorious work. Moreover, the Canadian Chamber of Commerce deserves high praise for its decision at the recent Toronto meeting to form an Agricultural and Industrial Committee to aid, foster and co-ordinate the research work which is being carried on throughout Canada and to encourage a combination of effort on the part of agriculture, science and industry to find a solution to the problem of discovering further consumptive channels for our farm products.

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I am grateful to the Hon. Mr. Bracken for the opportunity afforded me to be present at this conference and to submit the facts and figures in regard to flour exports, and to express my personal opinions on the prospects and possibilities of Canada's export flour trade, as well as my personal views in respect to the problem confronting Canada's wheat producing interests.

FLOUR STATISTICS

Canadian Total Flour Exports (in Barrels)		Exports to United Kingdom (in Barrels)	
1900-1901	1,187,059 Bbls.	1901	833,550 Bbls. 70.2% of total
1901-1902	1,022,854 "	1914	2,618,885 " 56.1% "
1902-1903	1,463,493 "	1929	2,790,188 " 24.2% "
1903-1904	1,558,989 "	1937	2,336,630 " 52.8% "
1904-1905	1,164,147 "		
1905-1906	1,681,087 "		
1906-1907	1,661,329 "	1921	3,625,425 Bbls.
1907-1908	1,595,208 "	1922	4,587,429 "
1908-1909	2,020,467 "	1923	4,697,745 "
1909-1910	3,412,625 "	1924	4,252,223 "
1910-1911	3,262,147 "	1925	2,787,796 "
1911-1912	4,217,543 "	1926	3,644,371 "
1912-1913	4,372,264 "	1927	3,637,095 "
1913-1914	4,666,267 "	1928	3,449,189 "
1914-1915	4,897,129 "		
1915-1916	7,897,453 "		
1916-1917	8,023,802 "		
1917-1918	10,826,777 "		
1918-1919	9,663,657 "		
1919-1920	5,572,688 "		
1920-1921	6,886,560 "		
1921-1922	7,878,589 "		
1922-1923	11,069,054 "		
1923-1924	11,990,842 "		
1924-1925	10,228,177 "	Czechoslovakia and Germany	1,164,137 84
1925-1926	10,671,368 "	Finland	284,378 19,585
1926-1927	9,302,114 "	Greece	231,190 Nil
1927-1928	10,276,698 "	Holland	232,691 32,117
1928-1929	11,527,375 "	Norway	445,214 178,881
1929-1930	6,762,010 "	Sweden	72,373 5,960
1930-1931	6,596,608 "	Austria	49,172 Nil
1931-1932	5,191,798 "	Denmark	298,798 546
1932-1933	5,520,519 "	Azores and Madeira	27,295 1,140
1933-1934	5,386,437 "	Italy	55,351 1,130
1934-1935	4,714,783 "	Other Countries	81,080 1,038
1935-1936	4,990,083 "	TOTALS	2,891,589 240,481
1936-1937	4,426,545 "		
1937-1938	3,607,318 "		

THE CHAIRMAN: Thank you, Mr. Short. I don't know if you have all carried in mind all of these statistics Mr. Short has given you, but I am sure in any adequate consideration of the wheat problem, the problem of markets for flour, the problem of the Canadian miller, has to be taken into account. I am sure that we will study with great interest and profit to ourselves the very excellent paper Mr. Short has given us.

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Tuesday, December 13, 1938
2.30 p.m.

Chairman, Hon. John Bracken

THE CHAIRMAN: As you know we had Mr. Short's paper on "Export Markets for Canadian Flour" this morning instead of this afternoon. Mr. Chas. Ritz, president, Robin Hood Flour Mills Limited, Moose Jaw, Sask., was to lead the discussion on that paper, but he was not here this morning, I see that he is present now, and I would ask him to address us at this stage of the proceedings. Mr. Ritz.

MR. CHAS. RITZ

PRESIDENT, ROBIN HOOD FLOUR MILLS LIMITED, MOOSE JAW, SASK.

MR. PREMIER, LADIES AND GENTLEMEN:

I have been asked to lead in the discussion of Mr. Short's paper on the milling industry. I have known Mr. Short for many years. As usual he has prepared what I consider a very fine paper, and I am sure there is not much room for discussion. I agree with him on almost every point, but I have a few observations which I would like to submit for your consideration.

There is no doubt but that Canadian mills have played a large part in the introduction of Canadian wheat to foreign markets, through the exportation of Canadian flour. It is the outstanding character of Canadian Hard Spring Wheat Flour, which induces foreign millers to become interested in milling Canadian wheat. In self interest, they desire—in fact, are required—to offer bakers a flour of comparable quality to that imported from Canada.

It is a matter of record, that in practically all overseas markets, Canadian flour has preceded the sale of Canadian wheat. It follows, therefore, that Canadian flour is the best salesman for our wheat. Where it sells freely, the market for Canadian wheat is broadened; where it is restricted, the market for Canadian wheat is restricted, too.

Troublesome times to wheat growers, and to millers, are not new. Periodic investigations have been made, but, generally, the need for action has passed before recommendations could be acted upon. There is undoubtedly need for a permanent body to handle this problem, and I would judge Mr. Griffin had this in mind when he suggested the formation of a Canadian Wheat Institute. May I suggest, if such a body is formed, it be known as the Canadian Wheat and Flour Institute?

This Institute should properly function, year in and year out—not slackening its efforts through good years, but be anticipating difficulties, and planning to avoid the demoralization which has come to Canada as a whole, and to the West in particular, in years of heavy production.

I understand the province of British Columbia sponsored commissions to the Orient, and to the United Kingdom, in the interests of B.C. lumber, with gratifying results. They also carried out an extensive advertising campaign to enlarge the demand for B.C. salmon.

Amongst its many activities, such an Institute would no doubt include publicity campaigns. It is rather difficult, however, to advertise a raw product to consumers. You can successfully advertise branded bacon, but not pigs. It is performance which creates demand, and the outstanding performance of, and the results obtained by the use of Canadian wheat, can best be demonstrated by the use of flour, milled in Canada, from our wheat. Canadian wheat, blended in a foreign miller's grist, loses its identity, and the miller needs to use only sufficient of it, to maintain the quality of bread obtainable in his country. The entry of Canadian flour, however, is capitalized on by aggressive bakers, in their efforts to increase business by offering housewives a superior product. The bread standard is raised, and demand created, to the natural sequence of increased use of Canadian wheat by local millers in their need to compete with the quality of the imported flour.

I say again, that Canadian wheat flour is the spearhead for Canadian wheat. It is a fact, however, that development of export flour business is handicapped by

much higher wharfage charges, ocean rates, landing charges, etc., than are borne by wheat. Another function of the proposed Canadian Wheat and Flour Institute might well be the consideration of these costs in detail, making such representations to the proper authorities that these inequalities be adjusted, freeing Canadian flour to do its best job.

Freed from such handicaps, the Canadian milling industry can, I feel, be safely left to exploit its opportunity to the uttermost. It has always displayed energy and ingenuity in expansion of markets where competitive conditions permitted, and can be safely depended upon to see that the Canadian product is pushed to as great an extent as possible into all available markets. Assured of the continued equality in this matter of transportation charges, it is probable the milling industry would feel justified in engaging bakery demonstrators, and salesmen, to help make known to bakers and consumers in importing countries the high value of Canadian flour, and the methods necessary to handle the same properly so that the fullest advantages would accrue to the user.

This might seem to be strictly a miller's problem, but the need for increased exportation of Canadian flour is just as much a national problem as is the enlarged movement of Canadian wheat. Certainly it is the movement of wheat, in flour form, and I would again strongly represent that it does a double duty, not only moving wheat, but paving the way for the entry and continuously increased demand for the raw material. (Applause).

THE CHAIRMAN: I apologize to Mr. Ritz for bringing on Mr. Short's paper this morning, and I thank him for his contribution. Mr. Paul Bredt has made a special study of the Australian problem, having been over there this summer, and I will ask him to deal briefly with the wheat industry of Australia. Mr. Paul Bredt, president of Manitoba Pool Elevators.

THE WHEAT INDUSTRY OF AUSTRALIA

By

PAUL F. BREDT

PRESIDENT, CANADIAN CO-OPERATIVE WHEAT PRODUCERS LTD., WINNIPEG, MANITOBA

MR. PREMIER, LADIES AND GENTLEMEN: Listening to the very comprehensive paper read by Mr. Short, while very interesting indeed, I became a little discouraged toward the end when he came to his conclusions. If we have to wait for a solution of our problem as wheat producers, and I still consider myself a wheat producer, until all those events come to pass, then I am afraid there won't be any wheat producers left. I could not help but think, hearing about the barrels and barrels and barrels, almost seeing them roll off Mr. Short's lips, and connecting that with a suggestion made yesterday by one of the speakers that the provincial government might encourage—in order to increase trade in wheat—the consumption of wine, I thought of something else occasionally put into barrels, and that I would like to hie myself to a sweet cool cellar, lie down beside one of those barrels—not filled with flour—and forget all my troubles and sorrows so far as wheat is concerned. (Laughter).

The Premier was kind enough to intimate that I had been to Australia recently and that I might give you some information about the wheat policies of that country. I am simply going to give you facts and conditions as I saw them, and as they were told to me, but I am not going to give you any policies as far as Australia is concerned. I have no intention of bothering you with a great many figures and statistics, because you have been given production statistics in several papers yesterday and this morning. Of necessity, I must refer to some figures but they will be very brief references, and they have been taken from a memorandum which was prepared for the Agricultural Council at the beginning of this year, the Agri-

cultural Council being composed of the various ministers of agriculture in the different states of the Commonwealth of Australia. So my authority in so far as the figures are concerned comes from the Federal Department of Agriculture in Australia.

The production of wheat in Australia in recent years has absorbed nearly 70 per cent of the area used for agricultural purposes. If the States of Queensland and Tasmania (whose wheat acreages are relatively small) are excluded, over 75 per cent of the total cultivated area has been devoted to wheat. Each of the other four states of the Commonwealth contribute substantially towards the sowings, New South Wales being the biggest producer, with Victoria and South Australia about even, and West Australia last.

The main wheat belts are in the south of the continent where the rainfall is more reliable and seasonal, and the plains favour extensive cultivation.

In the early days of wheat cultivation in Australia, cropping was confined to the coastal belt where the rainfall was between 35-40 inches. Owing to excessive rain, this area was soon found unsuitable and was gradually abandoned, in favour of the plains farther inland where the precipitation is below 25 inches and where the bulk of the rains fall between April and October.

Scientific research has been instrumental in breeding varieties of wheat which will thrive under conditions of soil and climate previously found unsuitable. The result has been a rapid extension of the cultivated area since the commencement of the present century. In 1900 the total area devoted to wheat was 5½ million acres; during the ten years, ending 1937, the average yearly cultivation has been over 14½ million acres.

As remarked, the average area for the ten years ending 1936-37 was over 14½ million acres. The "peak" year in Australian wheat cultivation was 1930-31, when the sowings increased by over three million acres to a total of 18,164,920 acres. A slightly bigger harvest, however, resulted from a much smaller area, viz., 15,765,504 acres—sown to wheat in 1932-33.

The three seasons 1934-35 to 1936-37 saw an appreciable decline in wheat sowings, the decline being brought about chiefly through the fall in prices. The average area harvested during these three seasons was only 12,280,000 acres or approximately two million acres below the ten-year average. The sharp rise in world prices, which occurred late in July, 1936, was too late to influence the Australian farmer to increase his wheat areas for the 1936-37 season. The rise in price did induce increased sowings in 1937-38, when about 13½ million acres were planted.

Production is, of course, largely dependent upon seasonal conditions. Large areas may be affected by drought conditions during the growing season, or unseasonal rains may cause havoc in crops ready for harvesting. These circumstances, however, do not often occur over vitally extensive areas, but in most seasons some portion of the "marginal" areas are thus affected. The lowest yield during the past ten years was in 1929-30 when 126,884,622 bushels was harvested from 14,976,564 acres—an average of 8.47 bushels per acre. The highest in the same period was in 1932-33 when the yield was 213,926,981 bushels from 15,765,504 acres, representing 13.57 bushels to the acre.

In Australia, as elsewhere, the production determines the percentage, as well as the quantity, available for export. The total quantity at present required for home consumption purposes—including seed and feed grains—in Australia is about 55 million bushels per annum. Thus somewhere between 80 and 160 million bushels have been available for export during recent years.

Since 1931 Britain has taken an average of about 50 million bushels annually of Australian wheat and flour calculated in terms of wheat. The quantities im-

ported by Britain from Australia in the past six years for which figures are available are as follows: 1931, 49,860,000 bushels; 1932, 52,358,000 bushels; 1933, 61,748,000 bushels; 1934, 45,595,000 bushels; 1935, 37,854,000 bushels; 1936, 49,978,000 bushels.

Wheat is one of the products—the other chief one being wool—in respect to which the Empire is a net exporter, and Australia depends upon foreign markets to absorb upwards of 40 per cent—depending upon the quantity produced—of her available exports.

Wheat in Australia is handled in bags and in bulk. The general tendency is to swing over from the bag system to bulk handling. New South Wales perhaps is better supplied with elevators ("silos" as they are called in Australia) than any other state, having 175 country elevators with a capacity of over 23 million bushels. They also have terminals at Newcastle and Sydney with a capacity of 800,000 and 7,500,000 bushels respectively.

In Victoria a Grain Elevator Board has been formed, and at the time of my visit in May I was informed by the chairman that tenders for 91 country elevators had been let and that 30 of these would be ready to receive wheat of the current season. The capacity of the Victorian elevators varies from 65,000 to 150,000 for single units, and from 220,000 to 300,000 for the double-unit system.

South Australia seems to be the only state which has made no move to change over to the bulk-handling system.

In Western Australia a subsidiary of the Westralian Farmers' Co-operative Limited has introduced bulk handling on rather an unusual basis. The elevators are really not elevators in the sense that we know them, but flat warehouses. Grain is delivered to them in bags, and a small plant somewhat along the line of our car loaders transfers the loose wheat into the warehouse, which has no partitions whatsoever and may hold from 30,000 to 60,000 bushels. The warehouse is built of galvanized sheet iron and heavy timbers and is well braced. When the warehouses are emptied the carloader is again made use of and the wheat is elevated out from the warehouse into cars on track alongside. To one used to our modern, up-to-date, quick-handling country elevators it seems a very primitive arrangement, but I have been assured by all with whom I came in contact that it works satisfactorily and cheaply. Such a system is of course possible only where grain is handled on a f.a.q. system. There are 173 of these country warehouses now in existence in West Australia, with a total capacity of 14,300,000 bushels. In addition there are three small terminals, at Fremantle, Geraldton and Bunbury, with a total capacity of just under one million bushels.

The procedure in respect to marketing wheat in bags at country stations is briefly as follows:

At each country station in the wheat areas the railways own land alongside the lines which are used for stacking wheat, and the wheat is conveniently loaded into trucks as required. The available area at each station is divided up amongst the various firms who will be receiving wheat at the stations more or less in accordance with the quantity which is expected each will receive at that station. Agents are appointed by each of the exporters in question, as well as millers, and these agents are paid 1-1/8d per bushel for each bushel of wheat received by them so that for each bag of wheat they get approximately 3-3/8d. For this remuneration the agent communicates with his principal and ascertains the buying price on a particular day, gets in touch with the various farmers in his district and endeavours to either buy their wheat or secure it on storage with a view to subsequent purchase. As the wheat is delivered, the agent places it into stack, having previously dunnaged the particular site or sites allotted to him, by placing timber over the ground so that the bags of wheat do not come in actual contact with the ground itself, and subsequently as a stack is completed he has to roof it with galvanized iron, and sometimes a sheet to keep the birds and rain from damaging the sides of the stack. From time to time as the principal requires the wheat either at sea-

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board or to be delivered to the local mill, the agent is required to load the wheat into a truck and consign the trucks as required.

After the delivery period is over the agent maintains contact with those growers whose wheat is held on storage so as to be able to advise them of the price from time to time and at any stage where a grower desires to sell, the agent has to advise the principal and hand over the purchase money to the particular seller.

The practice has grown up of exporters making an advance on stored wheat, so that if a grower does not desire to sell as soon as the wheat is delivered he can secure some money to meet his current expenses, and carry on without the necessity of his going to a bank. This practice really developed from the fact that in general bankers adopted the policy that it was wise for a grower to sell his wheat immediately on delivery and to overcome the necessity of accepting the banker's advice. This system was inaugurated and successfully accomplished its purpose except in those instances where a grower is rather deeply indebted to a bank.

The following costs of marketing a bushel of wheat bagged and in bulk for the 1932-33 season are given in the "Second Report, Royal Commission on Wheat." These figures do not include cost of bags:

	N.S.W. Pence	Victoria Pence	South	West
			Australia Pence	Australia Pence
BAGGED WHEAT				
Total charges (exclusive rail freight) Sidney to shipboard	3.102	2.626	3.442	2.978
Average rail freight	5.650	4.528	3.672	4.449
BULK WHEAT	3.191	.....	.....	3.120

Bulk-handling systems are in actual operation only in New South Wales and Western Australia. In N.S.W. the whole system is state-owned, while in West Australia the farmers' co-operative organizations have financed the cheaper, yet quite efficient, bulk-handling system previously referred to.

CHARACTERISTICS OF AUSTRALIAN WHEAT

(Extract from an Australian letter)

Australian wheat is classed as a moderately soft, white wheat of medium strength. It is admirably suited for blending with the stronger wheats of Canada and when so blended appears to make a satisfactory flour, its whiteness compensating for the dark color of the Canadian wheat and the extreme strength of the Canadian wheat making up for any deficiency in the strength of the Australian. On the other hand locally no difficulty is experienced whatever in producing a sufficiently strong flour, although it is the practice for millers to rather carefully blend wheats from districts which are noted for producing a strong wheat with districts containing merely average strength wheat. On the other hand it is never necessary to import any wheat to secure strength. The competitor to Australian wheat is the Argentine, whose wheat generally has similar characteristics.

If I may be allowed just a few minutes, Mr. Premier, I would like to give a few of my own impressions, and I will be very brief. I think all delegates from Canada to the Empire Producers' Conference at Sydney were impressed with the fact that there seemed to be in Australia a better understanding and a closer relationship between agriculture and industry, and a more harmonious feeling. For instance, it seemed quite matter-of-fact that as drought was then imminent in New South Wales, protection should be given to the agricultural industry in that particular state, and everybody, newspapers urban and rural, manufacturers, bankers and grain merchants were whole-heartedly in favor of this protection and assistance being given to the producer. Secondary industry of course is highly protected, and they seem to realize that if subsidies are necessary to agriculture they are given as a matter of course. May I say here that in Australia bounties or bonuses were paid to wheat producers for five years in succession, from 1931 to 1935. These bonuses

had to be given to the wheat industry in order to keep it afloat, and there does not seem to have been any blue ruin talk just because that expedient had to be resorted to—not for one year, but for five years. I hope that our Canadian wheat industry will not need assistance for the next five years, but it will certainly need it for the next year. The suggestion that everything is going to the bow-wows and blue ruin because we need assistance for two years does not come well from certain other sections of Canada. While the amount paid in those five years in Australia was not as high perhaps as we might have to go in Canada, still it amounted to a total of £14,400,000, approximately \$70,000,000. I do not think that even by the widest stretch of imagination anyone would suggest it will cost us that much here this coming year.

Their method of payment is somewhat different, and might be worthy of consideration by Canada. They paid a bonus on a per bushel basis to start with, which was switched over to a combination of bonus per bushel and bonus on acreage. In addition to that, in certain years there were "hardship grants," which simply meant that if the yield per acre dropped below a certain point an additional grant on a per acre basis was given to those who were unfortunate enough to come within that category.

I also believe that the Australian producer has definite advantages in lower production costs. The farms are larger, and they work bigger outfits. I never saw an outfit of horses less than eight or ten. They use tractors to a considerable extent. They can work 12 months a year. They have little or no expense for outside buildings. Harvesting is all done by combines, which means a considerable saving.

In addition all wheat growers combine the running of sheep with the growing of wheat, and that seems to bring in a considerable item of revenue. I have been told by several producers right on their own farms that they expect to get from 15 shillings to 18 shillings per acre from sheep they run on their wheat lands.

They have one extra expense; that is the cost of artificial fertilizer, which is absolutely essential for the wheat producer to use. They use superphosphate, and the application varies from 50 to 90 pounds or more per acre, depending on location. The cost varies from three pounds to four pounds a ton.

I see, Mr. Chairman, that time will not permit me to refer to all the matters I had intended, and I will just come to my last point. When I was in Australia, having heard that they had the alternative of turning to sheep for wool, mutton or lamb production, and having the opportunity of speaking to dozens of individual farmers, particularly in the states of New South Wales and Victoria, I made it my business on all occasions to sound them out on the possibility of their switching from wheat production, or drastically reducing their wheat acreage and going in more for the raising of sheep. They all told me there would be no expansion of wheat acreage, but that they had as much trouble in selling their wool as they have in selling their wheat. If we have to depend on persuading the Australian producer to switch over into sheep raising in order to give us a clear field, it will take a long time. About as long as persuading our neighbors to the south that their export market is unimportant and unprofitable, as one speaker suggested yesterday.

We are up against a proposition which primarily and most seriously affects the man on the land. He has to have assistance to carry on now and as long as present conditions continue. I am still enough of a dirt farmer to realize that these academic discussions about wheat markets are of very little interest to him unless the discussions result not only in markets but markets at a price which will give a reasonable return for his labour. All remedies suggested are long-term propositions. We should realize therefore—and this is the lesson I would like to leave—that we might have to subsidize our producers for a number of years, as Australia did some time ago, much as it is disliked—not the least by the producers themselves—in order that the wheat industry may be saved for this country. (Applause).

THE CHAIRMAN: Thank you very much, Mr. Bredt.

THE CHAIRMAN: LADIES AND GENTLEMEN: On very short notice Dr. D. A. MacGibbon of the Board of Grain Commissioners has prepared a statement on the wheat industry of the Argentine. Dr. MacGibbon is very familiar with the wheat situation in that country and it is now my pleasure to call upon him at this time. Dr. MacGibbon.

THE WHEAT INDUSTRY OF THE ARGENTINE

by

DR. D. A. MACGIBBON

BOARD OF GRAIN COMMISSIONERS, WINNIPEG, MANITOBA

In dealing with the production of wheat in Argentina I wish it to be clearly understood that I do not consider myself in any way to be an expert on the situation there. The information that I have to put before you has been very largely derived from the reports of Canadian Trade Commissioners and from the reports of the Foreign Agricultural Service of the United States. I have also been in touch, from time to time, with the Argentina National Grain and Elevator Commission which very kindly send me its publications, but as these appear in Spanish I have not been able to make much use of them. Under these circumstances there is always a danger that a false emphasis may creep into the picture due to not being able to give the exact weight of importance that it deserves to each factor.

In the first place it should be noted that Argentina is predominately an agricultural country with relatively little industrial diversification. Products of the various agricultural industries have accounted for an average of 95 per cent of all exports from Argentina during the last ten years. Argentina is second in the list of wheat exporting countries and had an average of 132.2 million bushels for the five years 1930-1934. Due to crop failures in 1935-36 she exported only 69.9 million bushels, but in 1936-37, 162.4 million bushels. According to reports for the present year the total Argentine crop will be between 276 and 294 million bushels, which would indicate a large exportable surplus for the coming months. Argentina is also the principal supplier of maize, of linseed and of beef. Progress in wheat production during the early post-war years was rapid. The area under wheat averaged 16 million acres in 1909-13. In 1928 Argentina reached a high point of 22.78 million acres and then declined until in 1935 her acreage was placed at 14.21 million. In more recent years, however, her acreage has again increased. In 1937 her acreage was estimated at 18.90 million and for the present year is placed at around the same figure.

In being predominately an agricultural country Argentina differs from Canada which has such important manufacturing, lumbering and mining interests. It would appear to an outsider that this would lead to more complete and unified concentration upon the agricultural problem in Argentina than in Canada.

The production of grain in Argentina is confined to a comparatively small and compact area. Eighty-seven per cent of the grain produced comes from three provinces: Buenos Aires, Cordoba, and Santa Fe, which together harvest an area less than that of the province of Saskatchewan. From the point of view of ownership the land is controlled either by landlords or their banks in large units. In the province of Cordoba alone there are over 50 estates comprising land in grain of more than 30,000 acres each. The proportion of cultivated land in large estates in Buenos Aires province, which produces nearly one-half of the grain from Argentina, is even greater. The typical grain grower of Argentina is a tenant farmer, the proportion of acreage cultivated by tenants being estimated at 85 per cent. The average yield of wheat for the past ten years was approximately 12 bushels per acre.

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The tenant farmers are mostly Spanish and Italian immigrants with a few Germans in certain sections. The usual lease runs for four years, the tenant providing the horses and machinery. The landlord takes from 17 to 30 per cent of the crop according to the producing zone, delivered at the railway in new bags. The four-year lease is adapted to a rotation between grass and grain. When the alfalfa is running out the tenant takes over, breaks the land, and grows four successive grain crops, leaving the land seeded to alfalfa again. The standard of living of the tenant farmer is low. There are no buildings on his holding except a sun baked mud house. A tenant has no bank credit but secures accommodation from a merchant or country grain dealer in town.

Wheat in Argentina is transported in bags from the farm to the railway. There are usually no granaries or other storage facilities on the farms and the bulk of the wheat crop is hauled to the railways immediately after threshing, or as soon as conditions permit. While the railways are required to provide warehouses at the stations, the supply of storage has not been sufficient up to the present to meet requirements. The bags are piled on the ground or on a platform and protected by canvas. It is estimated, however, that one-third of the grain is now being transported from the farm direct to the port by motor trucks. The wheat is transported in bags by the railway to the ports except that part handled by truck and may be stored at the port in bags until emptied into the ships' holds or in bulk in the present limited terminal space. Very little wheat is exported in bags.

There are thus marked differences in the conditions in which wheat is produced in Argentina compared with western Canada. On the whole the methods appear to be more primitive but the situation at the present time is undoubtedly changing so quickly in that country that it is unwise to generalize. One important advantage that the Argentine wheat grower possesses, that does not exist in Canada, is its proximity to shipping ports. It has been estimated that the average haul in Argentina is 144 miles, though, until recently at least, the charges for handling and conveying from the farm to the terminal port have been relatively very high. But these costs are undoubtedly being reduced due to the advent of motor trucks and to the improved facilities that are now in process of construction.

The methods by which the Argentine wheat grower disposes of his wheat are somewhat different from those employed in Canada. The country grain dealer, who may be a general merchant or exclusively a grain dealer, is an important factor in the Argentine wheat trade. For the 1933-34 crop, of the 147,000,000 bushels purchased by the Grain Regulating Board, 88.4 per cent was purchased from country merchants and dealers. Since this class ordinarily finances the grain grower, the wheat is generally delivered against previous cash advances on the crop. Wheat may be purchased outright or on the basis of an "open price" contract. In both instances the final price is subject to adjustment on the basis of standards of "fair average quality," which are established twice each year, on February 15th and March 15th by the grain exchanges in Buenos Aires and Rosaria from samples taken from all shipments which have previously arrived at the ports. Disputes are arbitrated by committees of the grain exchange. The farmer has little protection under the system but it is expected that the new official grading system recently inaugurated will improve conditions. With no official system of grading, the country dealer has been able to make an additional profit by mixing the wheat and a similar practice may be followed subsequently by the export firm.

Argentine wheat is sold for export on the basis of "fair average quality." Samples are taken from each cargo, arriving in England for example, of the different recognized types of Argentine wheat at the end of each month, the average quality as determined from these samples is taken as the basis of payment for cargoes arriving the following month. Premiums or discounts apply according to whether the quality of the particular cargo is above or below the average. This condition has not proved altogether satisfactory to the government of Argentina and in moving towards a system of grading and inspection they have undoubtedly had in mind the idea of selling their wheat in Europe on the same basis as Canada, that is, on the basis of a final certificate from the country of export.

When the world depression broke in 1929, Argentina, like other agricultural countries, was found to be particularly vulnerable to the force of the crisis. The heavy fall of prices of foodstuffs and other raw materials struck at the basis of her system. The balance of payments was disrupted and the peso was forced off gold as early as 1929. The government inaugurated exchange control with a view to reducing the amount of imported goods. By 1933 the decline in the price of wheat and other products compelled the government to heed appeals for relief for wheat growers and other farmers. Among the measures resorted to were fixing guaranteed minimum prices for wheat, corn and linseed, the establishment of various commodity boards to aid individual groups of producers and devaluation of the currency. While the primary purpose of exchange control was to reduce the excess of imports over exports, it was largely because of the fall in agricultural prices in terms of Argentine currency that the government was forced in November, 1933, to take positive action in the direction of increasing prices for Argentine export producers. The government accordingly devalued the Argentine currency by 20 per cent. Prices of Argentine primary products immediately advanced in approximately the same proportion.

Another feature of the exchange control system inaugurated in November, 1933, was the establishment of a margin between the official figure for buying exchange and the official figure for selling exchange sufficient to provide the government with a substantial profit to be used for re-imburasing possible losses under the minimum price system. As matters actually developed, however, the profits were sufficient to provide funds for the assistance of other groups of producers as well.

While the export bills resulting from sales of most of the primary products of Argentina, particularly grain, theoretically were to be sold at the established official rate of exchange, the government made exceptions in a number of products so that the export bills on such products could be sold in the open market, thereby realizing returns in terms of Argentine money considerably higher than would have resulted from the sale of bills at the official rate.

At the same time that the Argentine government devalued the currency, it provided, by executive decree, for the creation of a Grain Regulating Board, empowered to make purchases of wheat, corn and linseed at specified minimum prices whenever the world price, as reflected in the Buenos Aires market, should fall below the fixed price. During the first year of its operation, the Grain Regulating Board purchased approximately 147,000,000 bushels of wheat, or the bulk of the exportable surplus for 1933-34. During the early part of the year, the operations of the board showed a considerable loss, but subsequently, with an advance in the world price of wheat resulting largely from crop failures in the United States and Canada, the Board was able to sell its accumulation at prices considerably above the minimum. It was in a position as a result, to reduce its own losses for the entire year to the equivalent of a little less than \$2,000,000. This loss, together with the administrative expenses of about \$1,000,000, was re-imburased from profits made by the government on the sale of foreign exchange.

During the 1934-35 season, the world price of wheat continued above the Argentine minimum price, so that the Grain Regulating Board did not find it necessary to make any purchases of wheat that crop year. In the present year the Argentine government is buying the farmers' wheat at 59 cents at Buenos Aires and offering it to exporters at about the world's price level of importing countries. The Argentine government in maintaining the basic prices meets any losses incurred from profits which they derive in their operations of foreign exchange. According to the recent press reports the profits from the Argentine exchange control system may reach the equivalent of 100 million dollars this year in comparison with 64 million dollars realized last year. Early in November of this year the official selling rate of exchange was raised from 16 to 17 pesos to the pound sterling and the official buying rate left at 15 pesos to the pound. With this in mind it will be obvious that the profits from the operations of the exchange control system promise to make possible a policy of liberal subsidies for wheat exports.

Argentina set up in 1936 a National Grain and Elevator Commission. This is charged with responsibilities for establishing a government owned bulk handling system on which construction was begun during the year; and also for exercising various functions in connection with the seeding of different varieties, grain grading and inspection, and overseas marketing of Argentine wheat. The commission has its own representative in London. The influence of this new permanent agency, however, is in an entirely different category from that of the Grain Regulating Board.

The new grading and inspection system was established under regulations approved by the government in December, 1935. Argentine wheat had been traded in on the basis of certain definite types which had evolved over a long period. These were as follows: (1) "Rosafe," a semi-hard wheat from the Rosario district; (2) "Barusso," the Argentine hard wheat grown in the south; (3) "Baril," a soft wheat from around Buenos Aires which was less well known in export trade; (4) "Up-river," wheat which was a new grade established a few years ago to take in the poor qualities of "Rosafe" grown in the northern area. In addition, there was "Superior" or "Brazil." This comprised selected wheats of the best qualities that went to the Brazilian market.

The new regulations recognize the country as being divided naturally into three producing zones. For each of the three zones, three types of wheat will be recognized in the official grades; a hard, semi-hard and soft. Wheat from each of the three zones and for each type will be further subdivided as No. 1 and No. 2. The three zones will be: (1) Rosafe, the district which produced the present "Rosafe" or semi-hard wheats; (2) Bahia Blanca, the district from which Argentine hard or "Barusso" wheat comes; and (3) Buenos Aires, which produces the soft "Baril" wheat.

Provision is made for the exclusion from official grades of specified varieties of wheat which, while giving high yields, have been already found undesirable in quality. Other varieties that are found suitable may be added to this list as and when considered advisable. In future, trading in Argentina must be done on the basis of these grades, or when wheat is excluded from official grades, in the manner indicated on sample. Provision is also made for the appointment of a commission which will have under its control all matters relating to the production and distribution of grain for use as seed.

The government has announced that 321 new country elevators with a capacity of 75,000 to 185,000 bushels each and fifteen new terminal elevators with a total capacity of 22,000,000 bushels will be constructed. These elevators are to be completed within four years from the beginning of building operations. The present terminal elevator capacity is 19,000,000 bushels. There are only 100 country elevators at present. When the construction programme is completed, taking the average capacity of the proposed country elevators at 130,000 bushels each, Argentina will eventually have storage capacity for more than 83,000,000 bushels of wheat.

Some of the measures taken by the Argentine government were to cope immediately with the crisis caused by the depression and others are of a more permanent character. Wheat producers have been aided by a minimum price and the depreciation of the currency, but the government's policy was to sell freely on world markets, thus avoiding the accumulation of burdensome stocks. In the absence of large storage capacity in Argentina, this policy appears to have been the only one possible. Although Argentina participated in the World Wheat Conference of 1933, there was no attempt made to enforce crop restrictions upon the Argentine grain producers.

With regard to the long term situation, the tremendous expansion planned in elevators, both country and terminal, the establishment of an official grading system and the creation of a National Grain and Elevator Commission with broad powers over the grain trade as well as to control seed grain, indicate a determined

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endeavour on the part of the Argentine government, not only to improve the quality of Argentine grain, but also bring its technical methods of handling and marketing up to the level achieved in North America. Argentina is a low-cost producer and measures to improve handling and marketing are likely to reduce further her costs of selling export wheat.

The general conclusion that I arrive at is that Argentina is in a strong position to maintain her present status in the export of wheat. The favourable elements in the situation are: Argentina is so essentially an agricultural country that the interests of practically all her people are directly involved; the closeness of her wheat growing areas to ocean terminals, the improved methods in handling and grading which are in process of taking place; and finally, the immense profits she derives from her control of foreign exchange, which enable her to absorb heavy losses on the export of wheat.

THE CHAIRMAN: Thank you very much, Dr. MacGibbon. Since this conference commenced its work, we have now had the following papers presented:

- Western Agriculture in the Canadian Economy
- An Appraisal of the World Wheat Situation
- An Appraisal of the Canadian Wheat Situation
- The Wheat Situation of the United States
- European Wheat Requirements and Policies
- Export Markets for Canadian Flour
- The Wheat Industry of the Argentine
- The Wheat Industry of Australia

This conference is now yours either to ask questions or to make contributions by way of discussion on any of the papers presented to the conference up to this time.

QUESTIONS AND DISCUSSION

MR. SHARP: I would like to ask Dr. Wheeler a question. Dr. Wheeler, in your very excellent paper on the European situation, particularly in relation to the restrictions on imports, you left us with the impression that these European countries would do very little to change the policies which have led to the virtual exclusion of wheat from their markets. I perhaps exaggerate the inference I have drawn, but I want to ask you what could Canada or the United States do to modify that policy? Could we take any action by reducing our tariffs so as to enable them to have more foreign exchange with which to buy our wheat?

DR. WHEELER: In answering that question I think I ought to differentiate between the three major countries on the Continent, that is France, Germany, and Italy, and the rest of the minor European importing countries. But just as a general proposition I think you may recall one of the factors, as I see it in the rise in restrictions on imports, is the very low price of wheat. The importing countries all want to have higher prices, and the miserably low world price I think raises restrictions. In the countries where that is the predominating factor, such as Belgium and the Netherlands, I think it is reasonable to expect that if by some means or other Canada or the United States, or anybody else, could succeed in raising the world price, those countries would be bound to reduce their restrictions. As a matter of fact, they did that in 1936 and 1937. But as I said in the paper they increased the restrictions in 1938 when the world price fell.

As to these three countries, France, Germany, and Italy, frankly I do not think that there is very much that the United States or Canada could do. These countries all participated in the world wheat agreement, they all signed it, and one of the clauses in that world wheat agreement in 1933 was that when the price of wheat got above 62 cents gold, they would start reducing their restrictions, particularly tariffs. They were very careful not to commit themselves too much on the quantitative restrictions; they hedged that a little bit. Changing developments since 1933 are significant, and new developments in the last few months are also significant. My own opinion is that the military consideration is the predominant consideration in those countries, and until in some measure or other that consideration recedes it is likely that they will not greatly modify the restrictions on the imports of wheat.

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MR. DOYLE: Provided it were possible to induce those countries to remove all restrictions and take the 200,000,000 bushels of wheat—I am speaking of the big three, Italy, France and Germany—and we were willing to accept enough industrial goods from those countries to base a comparative price which would give us a fair price for producing the wheat in exchange, what would be the effect on the manufacturing industries of Canada and the United States which now produce \$250,000,-000 worth of goods?

DR. WHEELER: Of course, I am from the Department of Agriculture and do not worry as much about the manufacturer as perhaps others do. But, as a matter of fact, industrial activity in the United States at least is a very important factor in the welfare of the farmer. So when I say I am not so much concerned about the manufacturer I am a little facetious. My opinion is, however, that it is not necessary to postulate that if you increase imports by a certain number of millions of dollars that you reduce the consumption of goods produced in the country by an equal amount. I am convinced that in the United States—I haven't made a study of it in Canada but I think it would also apply—we could import and consume a great deal more in the way of specialty manufactured products without significantly affecting the production of manufactured products in the United States. The main reason I think that is, I believe consumption is held down by high prices, and that you can get a greater consumption if prices were lower.

MR. McCONNELL: In a little pamphlet I have in my hand at the present time I notice that the land under cultivation was 3,800,000 acres. I would like to ask the speaker if there has been an increase or decrease since that time?

DR. WHEELER: You mean in the acreage of wheat in the United Kingdom?

MR. McCONNELL: Yes.

DR. WHEELER: I am afraid you have got me on that. Perhaps Dr. Wilson could better answer it. My impression is that the acreage now is higher than it was at that time.

DR. WILSON: I have the figures here on the United Kingdom acreage. I have not the figures for 1918, but I have the average for the 1909-1913 period immediately prior to the war. At that time the United Kingdom had 1,850,000 acres. In 1922, about four years after the war, the average was 2,040,000 acres. So in 1922 the acreage was actually higher than it was in the pre-war period. But in the period 1922 to 1931 the United Kingdom acreage showed a fairly continuous decline, and in 1931 the acreage was only one and one-quarter million acres. Then from 1931 to 1938 there has been a fairly continuous increase up to 1,930,000, getting back close to the two million level.

DR. SANFORD EVANS: Many years earlier than 1918 they did have 3,000,000 acres, or more, but subsequently devoted much more land to pasture. Now it is beginning to come back again.

MR. BROCKINGTON: Mr. Chairman: This conference is largely an educational conference and I believe that your hope is that some of the stark facts which have been more or less known in the West for some time, shall become equally well known in the East. I presume that some of the succeeding subjects which will be discussed will emphasize the importance to eastern Canada, and to Canada as a whole, of the maintenance of decent standards for western producers. I think perhaps before I ask questions I might say this (because I believe it might have the effect of shortening some of the contributions), and that is, that I do not believe there is any organization or individual in western Canada who does not conscientiously think that there must be adequate support to western farmers as long as national and international conditions such as those prevailing at present continue, nor is there any organization that is not prepared with conviction to argue for that continuance. I think I can say, too, as a corollary to what Mr. Bredt said that I for one would think it would be unthinkable that the government would not continue for the next year to western agriculture at least the support it was given this year. With that preface, I would like to ask Dr. Wheeler one or two questions.

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DR. WHEELER: Could you just repeat once again the prices paid to the producers of wheat in France, Germany and Italy.

DR. WHEELER: These figures are estimated figures, they are not prices. In Germany the farmer gets a little more than \$2.00 a bushel, I think \$2.20, and in Italy the figure is very close to \$2.00, and in France, \$1.50.

MR. BROCKINGTON: Are the farmers in those countries prosperous, at those prices?

DR. WHEELER: I would say this, that the farmers of those countries are better off in relation to the rest of the country than they were in the pre-depression years.

MR. BROCKINGTON: What is the reason for the variation in the prices in those countries? Is it due to local conditions?

DR. WHEELER: You mean between the \$1.50 and the \$2.00? Those prices are just about the same in Germany and Italy, \$2.00. In the case of France I would say the situation is different. France comes close to being an exporting country. It has a difficult time to maintain prices by keeping out imports.

MR. BROCKINGTON: Does the fixing of those prices, which from this distance look high, prevent the consumption of all the wheat produced by those countries?

DR. WHEELER: No, not as regards Italy and Germany. As a matter of fact they even mix other grains, or even roots and bean flour to the wheat flour in order to get the adequate amount of bread.

MR. BROCKINGTON: Do you agree with what, I believe, Dr. Mackintosh said yesterday, that notwithstanding reduction in the price of wheat, consumption does not necessarily go up?

DR. WHEELER: I believe that is absolutely true.

MR. BROCKINGTON: One other question I want to ask you: In a declining market, and with a lessening of exports, do you think that Canada, by reason of the superior quality of its wheat, can reasonably look forward to a greater proportionate share of exports than it might otherwise obtain if its wheat was only of the quality produced by other countries? Do you think the picture is any better for us than it is for them?

DR. WHEELER: I think it is. I do not think there is any doubt but that Canada will ship a somewhat larger proportion of the wheat in world trade than it would if it did not have the kind of wheat it has. That does not mean it is going to ship as much wheat as it would like to ship.

MR. BROCKINGTON: I would like to ask Mr. Evans a question: Is there a processing tax still in effect in the United States?

MR. R. M. EVANS: No.

MR. BROCKINGTON: There was at one time, wasn't there?

MR. R. M. EVANS: Yes.

MR. BROCKINGTON: Please tell me first of all what was the attitude of the farmer towards the processing tax, was he favourable or unfavourable?

MR. R. M. EVANS: I would say in the case of cotton and wheat, the farmers were favourable to the processing tax. In the case of the processing tax on pork I would say they felt it gave a little too much burden to the hog raiser of the United States.

MR. BROCKINGTON: Would you tell me the attitude of organized labour towards the processing tax?

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MR. R. M. EVANS: I don't know the attitude of organized labour towards the processing tax, but I could answer you perhaps this way, that organized labour has always supported agricultural legislation.

MR. BROCKINGTON: Could you tell me the attitude of the consumer toward the processing tax, insofar as the consumer was vocal?

MR. R. M. EVANS: The actual consumer himself I don't think knew very much about it. (Laughter.)

MR. BROCKINGTON: That brings me to my next question: Did the processing tax on wheat necessitate an increase in the price of bread?

MR. R. M. EVANS: No, I don't think so. I might add this that I attended a meeting one evening of some of the so-called industrial and financial leaders of our country, and one gentleman was going on at some length about the processing tax, and he was not in a business that had to deal with it. Finally a quiet gentleman spoke to us and said, "Gentlemen, the companies that I control are the largest users of these particular commodities in the United States, and I never knew an instance where the processing tax was a burden to our business." I won't go any further than that.

MR. BROCKINGTON: Could you tell us why the processing tax on wheat was abandoned?

MR. R. M. EVANS: That was a part of the agricultural act declared unconstitutional by the Supreme Court of United States on January 6, 1936.

MR. BROCKINGTON: It was abandoned because of illegality and not because of any particular burden in its incidence?

MR. R. M. EVANS: Yes. I do want to qualify it to this extent that I think the processing tax in effect on pork at that particular time was a little higher than the producers of pork felt conditions warranted.

MR. HULL: Mr. Chairman, I would like permission to read into the record some figures that will be of interest in connection with a matter that has been discussed several times, the price of wheat in these European countries. I want to add to that, in order to illuminate it, the price of bread in those same countries. These figures are taken from an article which appeared in the Commercial Intelligence Journal published by the Department of Trade and Commerce at Ottawa, November 19, 1938, so that these figures are practically right up-to-date. While I am reading them, bear in mind that today in Winnipeg we are paying seven and eight cents per one pound loaf of bread, and wheat is 60 cents or thereabouts a bushel, the normal market price.

In Germany the domestic price of wheat is \$2.28 per bushel, and bread per pound is 6½ cents.

In Italy the price per bushel is \$2.11, and the price of bread per pound is 7.8 cents.

A VOICE: What is the bread made of?

MR. HULL: I can tell you that too; only I want to suggest to you right here and now that bread is a matter of taste. There are lots of people in Winnipeg who will eat rye bread in preference to wheat bread.

France—wheat, \$1.64 a bushel; bread 3.8 cents per pound.

Norway—wheat, \$1.62 per bushel; bread, 4.8 cents per pound.

Finland—wheat, \$1.46; bread, 6.9 cents per pound.

Sweden—wheat, \$1.33; bread, 6 to 7.6 cents per pound.

Yugoslavia—wheat, \$1.29; bread, 4.3 cents per pound.

Netherlands—wheat, \$1.25; bread, 5.6 cents per pound.

Belgium—wheat, \$1.17; bread, 3.1 cents per pound.

Hungary—wheat, \$1.12; bread, 2.9 to 4.3 cents per pound.

United Kingdom—wheat 65 cents; bread 4 cents per pound.

These prices for wheat are market prices and may not be the prices received by the farmers. For instance: the price in the United Kingdom is given as 65 cents a bushel; the farmer actually receives through government guarantees approximately \$1.32 a bushel.

The question was asked, what is the bread made of? In some of these countries there is a mixture. For instance in Germany bread must contain a percentage of rye; in Italy, 10 per cent of corn; in Greece it must be 60 per cent of domestic wheat; in Netherlands it must be composed of 35 percent of domestic wheat; and in other countries similar restrictions.

It is perfectly true that they may not be getting bread which contains as much wheat as the bread in Canada, but I want also to call attention to the fact that these people in the main, most of these European and southeastern European peoples are accustomed to a mixture of rye and wheat. They are still getting that mixture. They are just as well off now as they were before, when it comes to bread. There are a lot of people in this room who have eaten bread in England and they are not very much struck with the quality of English bread. I was over there last year and I met people who had eaten bread in Canada and they did not like our bread as well as they liked their own.

A VOICE: Have you any idea of the price of rye in Germany?

MR. HULL: No.

A VOICE: Is there any reference to the price of bread in Scotland as compared with England in that article?

MR. HULL: No.

THE CHAIRMAN: Someone has suggested that the price in Canada is based on a 20-ounce loaf.

MR. HULL: I have always understood that the loaf of bread in Winnipeg was 16 ounces.

A VOICE: Is that the delivered price in the Old Country or the cash-and-carry price?

MR. HULL: I haven't the faintest idea; they do not mention that in this article. This is the ordinary price of bread. There are not very many people as a matter of fact who carry their own bread anywhere if they can get out of it. In England the delivery of bread is undertaken in precisely the same way as here; you can have it delivered or you can go to the store and buy it.

MR. GOURLEY: It might be interesting to know some of the spreads between bread and wheat. On the 16th of December in the town of Dauphin the market price of wheat was 64 cents a bushel at the elevator. On the 22nd of March, 1935, the market price was \$1.34 a bushel in the same town at the elevator. Over the counter the local bread was selling at seven cents.

MR. JAMES A. RICHARDSON: I am not in the baking business, but I think it might be conceded that the price of wheat has very small effect on the price of a loaf of bread. We can agree in general that a pound of wheat will make a pound of bread. If wheat is selling at 60 cents a bushel then there is only one cent worth of wheat in a 16-ounce loaf of bread, but there are many other factors that go into the cost. There is the milling of the wheat, the sacking, the baking, transportation, and the lard, butter, milk, yeast, shortening, etc., that goes into every loaf of bread.

I don't know what delivery costs are in various places, but I do know that some years ago it cost 2½ cents per loaf to deliver bread in Toronto and all such costs have to be taken into account.

I do not agree at all with the last speaker who said that the man who gets a loaf of bread made from a mixture of a great variety of wheats is just as well off

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as one who eats bread made from Manitoba wheat. The gluten in our wheat runs the highest of any in the world. It runs the highest in quality as well as in quantity; and makes a far more nutritious loaf of bread. You can do far more work on it than you can on bread that is made of starchy and softer wheat flour. In Europe a certain amount of potato flour and other materials is sometimes used in bread, and the loaf carries a very large amount of moisture. The English loaf is a good example of this.

In conclusion, I wish to return to the original point, i.e., how much the cost of bread is affected by the price of wheat and to emphasize that when wheat is 60 cents a bushel there is only one cent worth of wheat in each 16-ounce loaf of bread. Whatever other costs there are in each loaf of bread, we must not lose sight of the fact that wheat is a very small item and at very little increased cost for high grade wheat a vastly better loaf of bread can be produced.

THE CHAIRMAN: Whatever else has come out of the discussion at least we have got this point that a wide variation in the price of wheat does not make a wide variation in the price of bread.

MR. ROBERTSON: Before we leave the question of bread, and I think we should leave it pretty soon, I wonder if there are any of the baking experts in the room who could give us any figures as to just how much the price must advance before the price of a loaf of bread is increased a cent.

A VOICE: It is interesting that it does not make much difference what the price of wheat is to a loaf of bread. The thing is that they can take wheat from this country to England and produce bread at four cents a loaf, and we pay seven cents when the wheat is grown next door. It seems strange. Mr. R. M. Evans said that the consumer does not seem to know very much about what was going on, and I think he is quite right. If the cost of wheat does not make much difference to the cost of bread I do not see what difference it makes about what kind of trash is put into bread. Why worry about what you put into it? I thought that the reason we were trying to get real good wheat was that we were willing to pay for a good loaf of bread, but evidently it doesn't make any difference what you put into it. It doesn't make any difference to the cost. That is something you want to think about.

DR. GRANT: I would like to ask Dr. Wheeler a question. The policy of trade by barter in respect of selling wheat in Germany has come to the fore in recent years. I wonder if Dr. Wheeler has any opinion as to the possibility of Canada and the United States enlarging exports of wheat and other primary products through barter terms of trade, and what the American government's attitude is towards extending trade in this form.

DR. WHEELER: I am not from the Department of State, and perhaps I had better not say too much about what the policy is in regard to barter. As I understand your first question it is: If we adopted a barter system, could the United States and Canada get rid of a good deal more wheat? That is a very interesting question. I think I would just want to relate this to Germany, because it is more apropos of the German system. I believe that the United States and Canada, or any other country, could get rid of somewhat more wheat by adopting a straight barter system if, for the time being, that could be done. I do not think it could be very much because I always recur, perhaps wrongly, in the case of Germany, to the military factor in their present restrictions. I am convinced that Germany would rather barter for wheat in the Danube Basin, and for wheat and rye from Poland, which is right next door, and develop a source of supply there, than to rely upon a source of supply as far away as the United States and Canada. That I think is fundamental; nevertheless, if, for instance, next year Germany had a very poor crop, which certainly could happen, and they needed a great deal more wheat next year than they could get from their own production and from the Danube Basin, I do not think that there is any doubt that in such a situation the United States and Canada could get rid of more wheat to Germany, if they were willing to deal on the German basis. If they are not willing to deal on the German basis they are going to get the wheat somewhere else.

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A barter policy is not at the present time the policy of the United States government.

MR. SOMMERFELD: I would like to ask Dr. Wilson a question. I am prompted to ask this question by this thought, that in the countries of high import duties there are large acreages now devoted to the production of wheat. If we should recapture those markets just what would happen, and what would be sown on those acres? With that in mind I would like to ask this question, are the high prices of wheat in those countries of high import duties entirely attributable to what would otherwise be obtained in the growing of other crops on the land now devoted to wheat production?

DR. WILSON: I am not certain that I grasped your question fully. You are thinking in terms of possible shifts in production. If the high prices of wheat now being paid were no longer paid, could there be any significant shift into coarse grain that could support livestock and dairy production in those countries?

MR. SOMMERFELD: Yes, in those countries.

DR. WILSON: I believe that to be the case. If wheat were not getting special consideration, for all the reasons the various people here have enumerated, there would have been an increased production of meats, fats and dairy products, that would have given the consumers in the large European urban centres somewhat higher food diet than they are now getting.

MR. LEONARD NESBITT: I would like to ask Dr. Sanford Evans this question. Perhaps I misunderstood him, but I would like to ask him if he is under the belief that the government should not have fixed the minimum price this year, and should have had an open market price, and by so fixing the price bonused the wheat producers? I am from Calgary. I must admit I am in a different altitude here from what we are in Alberta. We are a different province, as you know, in many respects. For instance, our Calgary Board of Trade went out and got a dirt farmer, who is here today, as its president. This is a very important matter to us. For a while when I heard Dr. Sanford Evans speak I thought there was no wheat problem. In fact I was going to ask for my money back for coming down here. (Laughter). I want to know if Dr. Sanford Evans wants a different method entirely of bonusing wheat producers? Do you want that 80-cent price eliminated? Is that a mistake? Do you think sincerely that within the next five years there will be an opportunity for wheat farmers to make any profit?

DR. SANFORD EVANS: It is my opinion, in answer to that question that a different method of handling the assistance this year would have been better than the one we have, and to that extent I answer in the affirmative.

MR. NESBITT: What method would you suggest?

DR. SANFORD EVANS: It would take longer than I would have here to develop the method which I think would have been better. But there is no dispute between me and anyone else on the importance of recognizing the position of the farmer, and in giving whatever assistance is necessary, but further than that I couldn't say. I would be very sorry if I had left yesterday the impression that there was no wheat problem, for there is a serious problem. But looking at the fundamentals, as I do, it is a problem which is capable of solution, because it will take only the slightest change in percentages of the use of wheat to completely alter the whole wheat picture of the world. It is because such little changes make disastrous results that there is such hope in the situation.

MR. BREDT: It always seems to me when we are talking about subsidies and bonuses we are hardly fair. I have used the terms myself, but isn't it a fact that when the producer, the wheat grower, sells his wheat below the cost of production, he is in effect subsidizing others? And if now in the years when wheat again is selling on the market of the world below the cost of production and we are being assisted—for want of a better term—by the government, we are only getting back in part what we have given to the rest of society in years gone by. We do know that

there has been a number of years since 1930 when we sold our wheat below the cost of production. We are now getting restitution of some of the subsidy which we ourselves have given to others and we are receiving a little compensation for the disability of the tariff which we are laboring under.

THE CHAIRMAN: For the information of this audience would you state what the policy of the Australian government was in that respect?

MR. BREDT: From 1931 to 1935 the federal government in Australia gave assistance to all producers. They started out with a bonus on a per bushel basis, which was later changed to a bonus on a per bushel and acreage basis. In the last two years in addition to those two grants there was an extra hardship grant given to those producers whose yield came below a certain figure.

THE CHAIRMAN: Do you know what it cost the Australian government during that period?

MR. BREDT: £14,400,000, so that would be approximately \$70,000,000.

THE CHAIRMAN: \$70,000,000 to a wheat industry perhaps one half the size of the Canadian industry.

MR. BREDT: In that connection I would like to say a few words in reference to the importance which the wheat industry still is to Canada. I think it was Dr. Mackintosh who referred to the early '20's, when wheat was a predominant influence. It still is. During the fiscal years of 1926 to 1937, the 11-year period trade in wheat and wheat flour has never been less of Canada's total exports than 21.9 per cent, and it has been as high as 36.4 per cent. Even in that disastrous year for western Canadian wheat producers, 1932, the export of wheat and wheat flour was still in excess of 31 per cent of the total. Surely that is reason enough why wheat, a single commodity which makes up from a quarter to one-third of the country's total exports, is entitled to some consideration.

MR. HUTCHINSON: I would like to ask Dr. Sanford Evans a question. I understand his idea is that the government should have given that assistance to the farmer, which everybody recognizes is absolutely essential, in a different manner. I presume that he means in a manner that would not affect the operations of the open futures market. Supposing that had been done this last fall. We never had a greater rush of grain delivery—everybody in the elevator business knows that—an unprecedented rush of grain. A very large proportion of a moderate sized crop was delivered in a very short space of time. Dr. Evans is closely enough connected with the Winnipeg Grain Exchange to know that under ordinary conditions, with no outside interference or anything of that sort, all that grain would have had to be hedged on the market. What does he think would have been the result? Where would the price have gone? Who would have been there to buy from day to day the tremendous rush of grain coming in? As it was arranged, with the Wheat Board operating, when the price went below the Wheat Board price, they got all the wheat, and they have handled the whole of this crop. But what would have been the result if the market had been open there? Where would the level have gone if that tremendous rush of grain had all had to be hedged?

DR. SANFORD EVANS: If I understand the question it is this: What might have happened if the wheat had to be hedged instead of being bought by the Wheat Board? We never know, and no one can possibly answer what might have happened if something had been done which wasn't done, or something left undone that was done. It is impossible to know just exactly what would have happened. Under ordinary conditions, and in all past years, the market has been able to handle all the hedging, has been prepared for it, and has handled it satisfactorily. I have no question of doubt in my own mind that the situation could have been handled this year quite as satisfactorily. I really would have expected that we would have avoided the severe break which occurred after August 5th this year. We might not, but I am quite satisfied it could not have been worse. And among the facts, ladies and gentlemen, which I think we should carry in our minds, without drawing conclusions from them, is the fact that on the only two occasions in which prices of wheat in Canada, real prices, have been extremely low and at their

very worst point, those periods were between 1931 and 1934 and the present time. On those two occasions, and those two only, has the wheat been handled under the conditions of government operation and intervention that we have today. The worst prices in our history are associated with certain methods of handling. They might have been equally bad under others. That might be a coincidence, but when we are thinking of price we cannot disassociate the worst price with the present type of trying to handle the situation.

MR. HULL: What about 1919?

DR. SANFORD EVANS: That was war time. The government at that time put a ceiling on prices. The control at that time was to keep prices down, not raise them. The price of wheat relative to general prices was higher at that time, even with the ceiling on, than it was at any other period of Canadian history.

MAJOR STRANGE: Mr. Chairman, it seems to me that we have listened to some very fine papers and that all the speakers are to be highly congratulated on covering the subject very thoroughly. There are one or two points I think, however, that deserve further emphasis. I must say that as a result of listening to all these papers, some of them quite pessimistic, I am still, like Dr. Sanford Evans, a prudent optimist.

I would like first to correct a misconception that seems to be abroad about the "carry-over" next August of 1,100,000,000 bushels. That is a "carry-over," but it is not a surplus. The surplus will be only 450,000,000 bushels, because there is always needed about 650,000,000 bushels as working stocks in the bins of the world. Comparing it with the total production of wheat in the world that surplus is only eight per cent and ten per cent without Russia and China. So the surplus is not 1,100,000,000 bushels as some people have in their minds.

Dr. Wilson showed us that wheat acreage had been increasing, but Dr. Sanford Evans showed us it had not been increasing as much as formerly, and not as much as he thought the population had been increasing. If under those circumstances we still have a surplus, it must mean that the per capita use of wheat has declined. When you look up the records you find the key. The Food Research Institute of California, in a recent study on the per capita use of wheat shows a gradually declining per capita use in wheat year by year from 1928 to date.

Averaging the three years, 1928-1929 to 1930-1931, it is found, according to the Food Research Institute's figures that the wheat using world, ex Russia and China, consumed for those three years, each year, an average per person of 3.50 bushels of wheat exactly. Whereas, in the three years 1935-1936 to 1937-1938, that is, the last three years, the average consumption per annum for those three years has been only 3.29 bushels per person, or a decrease of .21 or approximately one-fifth of a bushel per person per annum. Now the population of these world wheat eating countries is about 1,075 million persons. If, therefore, you multiply 1,075 by .21 bushels, you will find that it comes to a decrease in consumption for each of the last three years of no less than 225 million bushels; or, in other words, had the people of the world been using as much wheat during each of the last three years as they used during each of the three years from 1928-1929, then the world would be using 225 million bushels more each year or, during the last three years together the world would have consumed a total of 675 million bushels more than it actually has done. Which means, therefore, that had that same consumption occurred, even with all the increase of acreage that has taken place, there would be a most decided deficiency in the amount of wheat produced this year for the needs of the people of the world. Obviously under consumption, and not increase of acreage then has been the nigger in the wood pile and therefore no blame attaches to the western Canadian or any other farmer.

Mr. Griffin touched on a very interesting point, the need for more food in the world. He told us of the study of Sir John Orr and of the League of Nations, and it struck me that this meeting might be interested in reading the report of the League of Nations Mixed Committee on Nutrition last year:

"We have shown that in countries of the most diverse economic structure, and general level of consumption, appreciable sections of the population are, for one reason or another, failing to secure the food which is essential to their health and efficiency."

"Millions of people in all parts of the globe are either suffering from inadequate physical development, or from disease due to malnutrition, or are living in a state of sub-normal health, which could be improved if they consumed more or different food."

"That this situation can exist in a world in which agricultural resources are so abundant and the arts of agriculture have been so improved, that supply frequently tends to outstrip effective demand, remains an outstanding challenge to constructive statesmanship and international co-operation."

So it seems that one of the bright spots for our future is this decided need for more food in the world. I would say from my own study that in the European countries particularly, the serious deficiencies are in meat, milk, eggs, butter, cheese, and fat, and that is because the land which should be producing those fine nutritive foodstuffs, has been taken out of grasses, clovers and coarse grains, and has been put into wheat by reason of the fact that those people could not obtain sufficient foreign exchange with which to buy their wheat, and as we all know one acre in wheat will support three times as many people as the same acre producing livestock products. The German and other people, I find, have been forced to do these things. I might take one moment to read to you what the German people themselves say about this question. This is in an official German publication recently issued, entitled "The Nazi Primer," and in it Germany explains what has happened since the war and why she has been driven to do the things throughout the world she has done:

"Germany would in its present strained position gladly and willingly buy from abroad the raw materials which we lack, if a sufficient possibility were given for doing so. Foreign countries, however, demand payment in foreign currency. The only way we can obtain foreign money is by exporting German goods. In a senseless manner the countries with raw materials shut out German imports, isolate themselves in their great economic enclaves. Our exports have shrunk, therefore, in exactly the ratio that the revival of our country has increased our need for raw materials. For that reason the German economy in industry and handicrafts finds itself in very serious difficulties. If German industry is to put all German workers back again and to raise the production of goods to the point of doing away with German poverty, extraordinary measures are necessary in order to obtain sufficient supplies of raw materials."

It is because of that statement, Mr. Chairman, of a similar statement recently published by Italy, and others like it, as touched on by Dr. Wheeler in his paper, that I feel sure the outlook is very hopeful. It is not only from that statement alone I say that, but because I have checked it up in many ways. I have talked to people who have been recently in Germany and Italy and in other European countries, and I am certain that if we give foreign people the chance, they are quite willing to buy larger quantities of our goods and wheat and other foodstuffs. It is not pleasant, I am sure, to learn that the people in Europe are living at a very low standard, particularly in regard to foodstuffs, when at the same time we have such a surplus that we could supply them with.

I would like to conclude by reading a very interesting thing in a historical document. It is important I think at times to refresh our minds with historical references. What I am going to read to you is point No. 3 of President Wilson's 14 points upon which the Treaty of Versailles was founded. It was expected that those countries, particularly the countries victorious in the late war would carry out the principles of those 14 points.

"The removal, so far as possible, of all economic barriers, and the establishment of an equality of trade conditions among all nations consenting to the peace, and associating themselves for its maintenance."

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In short I believe there is a hope for the future, that in the long run the increase in population will catch up with production, and in the meantime we can sell more wheat if we will give the German and other foreign peoples the opportunity to sell more of their own goods in our country. (Applause).

THE CHAIRMAN: There are two unanswered questions among those that have been asked. Mr. Brockington asked the economists to answer the point raised by Dr. Sanford Evans, namely that the increase in population would perhaps look after the increase in wheat production. I would like to ask Dr. Grant of the University of Manitoba to take two minutes to answer that question. I think the question raised by Mr. Hull with regard to the price of a loaf of bread should not be left up in the air as it is now, and that the question should be answered by either the millers or the bakers before the conference is over. The suggestion was that because of the very high prices of wheat in Europe, much higher than the price of wheat here in Canada, and the very low price of bread in Europe, including England, as compared with the price of bread in Canada, there is an apparent discrepancy that should have an explanation. A suggestion was also made that perhaps the weight of the loaf was less in Europe or the Old Country than here, and that the loaf contained cheaper ingredients than wheat. Dr. Grant.

DR. H. C. GRANT: Mr. Chairman, the question as I understand it has to do with the annual rate of increase of population in the world. Measuring population increases, or as a matter of fact, actually estimating population at the present time, is a very difficult statistical problem. However, there are some outstanding authorities on this subject, and the brief answers that I have to make are taken from probably the most authentic sources, Carr-Saunders and Dr. Kuczynski.

Synopsis briefly the pertinent information on this point and relating it to wheat: what we should understand is that demand consists of two things. One, of course, is the desire to buy, and the other is the ability to buy. So that it probably is not a valid concept to take into consideration the total world population unless we know what are the consuming standards of various groups of people with respect to wheat consumption.

As far as Dr. Wheeler's statement is concerned with respect to population tendencies in Europe I find his figures as to tendencies are absolutely accurate. Breaking it down with respect to Europe as a whole, the annual rate of increase from 1900 to 1916, was 1.14 per cent; from 1920 to 1930 it declined to 1.025 per cent. In northwest Europe, where we would all agree are located the important markets, the population increased from 1900 to 1916, 1.106 per cent per annum; from 1920 to 1930 that had declined to .635 per cent per annum. In southwest Europe the rate of population has gone up from .483 to .709. But this is an area in which agricultural production is encouraged. In eastern Europe the trend of increase is not so high, from 1.482 to 1.519.

In connection with the point of considering the total world population as a factor in wheat economy, I will give the figures and the relative percentages in various parts of the world, and you will make your own conclusions as to the possibility of how population increases in those areas if they are significant will bear on the wheat situation. The population of Europe is 25.2 per cent of the world population. North America, including Mexico, Canada and the United States, is 6.7 per cent:

Central and South America	6.1
Oceania	5.0
Africa	7.0
Asia	57.0

Asia and Africa approximately 60 per cent. You may draw your own conclusions as to what proportion of that 60 per cent you could include as potential purchasers of Canadian wheat. Of the Asiatic countries Carr-Saunders says that the only real significant increase is in India where the population has increased 40 per cent. Japan has increased at the rate of 2,000,000 a year, but the rate of increase is now definitely downward.

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With respect to China of course the figures are very obscure, but the estimates made by Wilcox and others lead them to believe that it is very doubtful if any significant increases have been made there.

THE CHAIRMAN: What is the rate of increase of population for a year?

DR. GRANT: The population increase of the world is around the rate of one per cent per annum.

DR. SANFORD EVANS: The figures which I gave last night were .88 of one per cent. The Doctor says about one per cent per annum. I took two-thirds of one per cent per annum. At that rate, the increase was 17½ million persons a year, and if you take on the average what all human beings contribute to the disappearance of wheat, it would call for 3,000,000 acres.

DR. GRANT: You would have to assume in that case that the additional population were all potential wheat eaters.

MR. BROCKINGTON: Am I correct in summing up your excellent answer this way, that as usual the truth lies perhaps a little in the middle. Your answer means that insofar as the countries are concerned which do not now and possibly will not consume our wheat, their rate of increase in population is about what it has been in the last couple of decades. With reference to the countries which do use our wheat and possibly will continue to use it in the future, their rate of increase is less than it has been in the last two decades.

THE CHAIRMAN: But there still is an increase?

MR. BROCKINGTON: There is an increase, but the trend of the increase is downward.

DR. GRANT: The estimate is that you will reach stability and then decline for northwestern Europe and for America.

DR. SANFORD EVANS: What I did was to divide the world crop by the world population; whether they were wheat eaters or not, and say on the average there has been a disappearance of 2½ bushels. I did not take the standards that were prevailing in what were called the wheat eating countries. Then what I said was supposing the increase in population was distributed in proportion to present population we would arrive at the result which I did, and which I think is perfectly satisfactory.

THE CHAIRMAN: The subject matter is going to be changed for the next hour. As you know during the last year we have been taking up with Ottawa the question of the relations between the Dominion and the Provinces with regard to public responsibilities in Canada. We have said to them that Confederation brought certain advantages to Canada, and that those advantages were not equally distributed throughout the nation. As a result of our fiscal, trade, and monetary policies, more advantages were conferred upon certain provinces than upon others. We attempted to measure the disadvantages of some of those policies on the western economy, such as tariff policies and monetary policies, and we pointed out, after a very exhaustive examination, which I think is not questioned by students of the subject, that the monetary policy followed between 1930 and 1936, resulted in a disability to the three western provinces of \$47,000,000 a year. We are not saying that there was no advantage to the Canadian economy from what was done, but we are stating that whatever advantage it brought to the Canadian nation it brought a distinct disadvantage to the western provinces.

We have with us today one of the men who helped us in the preparation of that brief, Dr. Arthur R. Upgren, of the University of Minnesota, Minneapolis. Today we are going to ask Dr. Upgren to speak to us on the subject of "Monetary Policy in Relation to Farm Income," and we think it is particularly timely because the pound today is being depreciated and the effect of it is becoming apparent. We want to know what its effect is going to be on the domestic economy. (Applause). Dr. Upgren.

MONETARY POLICY IN RELATION TO FARM INCOME

by

DR. ARTHUR R. UPGREN

UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINNESOTA.

MR. PREMIER, LADIES AND GENTLEMEN:

In my remarks I would like to discuss informally with you the subject of monetary policy. We are changing the subject somewhat at this point, and we should shake our heads a moment, our vertebrae permitting, so that we bear in mind the fact that, for the problems with which we are now concerned, monetary policy is not a specific solution; for instance, in a consideration of the export markets for wheat. It is fitting, it seems to me, to emphasize monetary policy at this time, partially, as Premier Bracken has pointed out, because the rate for the pound is changing; it is also fitting, it seems to me, to consider it at this time because of the fact that most students of monetary policy are agreed that it is not a question that arises only in an emergency, but one with which we must concern ourselves continuously, so as to achieve the best possible results.

In relation to wheat, I should also like to point out that monetary policy is a more general approach, an approach that affects the price level and affects incomes, but only in special ways affects special commodities. Wheat is a very special product. That can perhaps be illustrated by a hasty calculation I have made, comparing wheat in Canada with cotton in the United States. Cotton is the largest crop of the United States. Setting the production at 15,000,000 bales, and the price at ten cents a pound, the value of the cotton produced is about \$750,000,000 annually, or about \$5.00 per capita. Now take wheat as produced in Canada: the crop is roundly 300,000,000 bushels; putting the price at approximately 75 cents a bushel—perhaps a bit high, as my cotton price was also somewhat too high—the value of the wheat is about \$225,000,000, or about \$20 per capita. So that serious as our cotton problem may be, yet the value of cotton is only about \$5.00 per capita. Your wheat problem is one involving \$20 per capita, not \$5.00.

Turning to a more general consideration of monetary policy, we might first discuss briefly some of the causes of the world collapse that have directed our attention to that policy. The first one to be pointed out, and by all means the outstanding one, is the sharp decline in the price of raw materials. The significance of this decline may be illustrated by the use of some figures; figures perhaps express best of all the point which we are discussing.

Consider first of all the wholesale price level in Canada, using 1926 as 100. On this basis wholesale prices declined to about 67 in 1933, about two-thirds; the prices of Canadian agricultural exports declined to about 42, a much greater drop. Taking as another illustration the price of imports of iron products, the decline was only to about 88, and that in 1936.

It is these differences in the rates of price decline that create the problems towards which monetary policy is directed. The sharp decline in the price of raw materials the world over, of wheat, of rubber, and of other commodities, seriously impaired the incomes of certain groups. If we are sometimes concerned with the fact that monetary policy presents certain risks in its execution, we must also point out that what did happen involved very serious risks and had very serious effects. Some of those can be pointed out in the countries of western Europe, about which we are so greatly concerned in our quest for wheat markets.

The second point in connection with the world collapse is the stoppage of lending by some countries. Because I am most familiar with it, and because the amount is the largest, we might point to the United States, which loaned abroad each year during the 1920's about one billion dollars. That placed funds in the

hands of people abroad with which to buy our products and raw materials, and the products of agriculture. In 1930, as sharply as a chicken's head is cut off with an axe, that foreign lending was cut off. This gave a shock to the maintenance of foreign trade from which we have not yet fully recovered.

The third point I should like to mention is the increased nationalism abroad. In the early 1920's, as the result of the peace treaty, new nations were carved out of Europe. Those new nations tried to build up new industries. They did it by tariffs, and in building up more self-sustaining economies for themselves, they narrowed the export possibilities of the rest of the world. These countries were temporarily sustained by lending, which contributed to the world building boom that gave us the marked recovery of the '20's.

The fourth cause of world collapse is the fact that the world has grown up; that is, if we think back on the century which ended with the war period, we look upon a period of growth the like of which the world never saw before that time, and the like of which it is doubtful if it shall see again.

Dr. Grant has referred to certain population figures, and to Dr. Kuczynski's studies, and he would have pointed out, if he had had time, that even though the rate of population growth has continued, unless there is a change in things that are not apt to change, the decline in the future will be much greater than is apparent from the present figures. The reason is that there is now a wave of population at child-bearing age, and that as these people grow up and are not replaced, we can almost certainly look forward to a sharp decline in population. There is a recent book called "An Economic Programme for Great Britain—The Next Five Years." The 152 writers who signed the book, amazing that so many people could agree on an economic policy for Great Britain—pointed out that in the next 20 years the population of Great Britain will probably be considerably below 40,000,000, instead of the 43,000,000 it is today.

This world collapse which we have seen has had certain effects. The first one I should like to mention is that as prices fell, it became much harder to pay. The decline in income in Canada as a whole was almost to one-half of the pre-depression level. Roughly speaking, at the very low point for all Canada, that decline almost doubled the burden of debt. We know that there has been a recovery for Canada as a whole, but there has not been a like recovery in the West; there the index of income is probably still not much above half of the pre-depression level.

The second effect of the world collapse is the fact that almost the full force of this collapse in income was felt in the areas producing raw materials. This situation grows out of the fact that the demand for their products is rather inelastic, together with the fact that they cannot easily restrict their production in an attempt to support a better price.

In considering that decline in income for the producing areas, I should like to do it by presenting a few figures to show the situation in England, not in the raw material producing countries. In 1929 Great Britain imported about 23,300,000 tons of food stuffs and raw materials. In 1932 Great Britain imported 23,500,000 tons. The figures are not important other than to show the slight increase in the total. But the cost of those raw materials imported by Great Britain declined from three billion dollars in 1929 to 1.4 billion dollars in 1932, a decline of something more than 55 per cent. That very great decline represented subsidies to raw material producing areas, and led to the recovery of Great Britain.

Now turn to the raw material producing countries of the world which suffered the very great loss of income that proved to be Great Britain's great gain. I might also point out, more or less parenthetically, that when we consider the budget policy of the government, it must be considered in the full light of all the facts. If Great Britain found no need to resort to an unbalanced budget programme, it was in large part because the sharp decline in the price of food stuffs to her people released funds in other directions, and stimulated an expansion in output of her industries, which meant the government did not have to take a leading role in

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stimulation. The present editor of the "London Economist," Geoffrey Crowther, has pointed out that the decline in price of food stuffs in Great Britain was several times the decline in payrolls, so that the working classes, while they may have worked for a somewhat smaller total pay, found they could buy more than ever.

With this fact as a background—that the raw material producing countries suffered a great decline in the income of their people, of serious moment to them—together with the fact that debts declined but little unless they were adjusted, we may turn to a consideration of monetary policy. What is the goal of monetary policy?

In view of these causes of the world collapse of 1929 and thereafter, and in view of some of the results of that decline, the first goal that we may consider, in order to dismiss it rather quickly perhaps, is the restoration of solvency of debts. Confusion sometimes exists as to the advantage of price rise. One advantage is that even though it may not stimulate enlargement of output, price rise in and of itself tends to serve the purpose of making debts easier to pay. So that as between creditors and debtors, a price rise gives justice to those who are in the debt paying position, and it does no injustice to creditors, because the decline in prices gives them greater purchasing power, which is a valuable gain.

The second and more important purpose or goal of monetary policy is, of course, the restoration of the national income. We have been rather slack in our thinking, all of us, particularly economists, and slow in putting our fingers on the central fact of an economy. That central fact I believe to be the income of the people, and the incomes of various producing groups. You all recall those several radio addresses by President Roosevelt in 1933, in which he pointed out that he was after a higher price level. One phrase that I believe he used was "Restore the 1926 price level we will." I think the emphasis should not be wholly on prices—but to a greater degree on the restoration of national income. More recent analysis has changed the centre of attention to the maintenance of the national income as the best measure of the welfare of the people. In doing that, consideration must be given to the most oppressed groups, those who have suffered the most serious fall in the national income.

Any application of monetary policy in the case of Canada, let us say an expansionist programme, if directed to the agricultural producing areas, would create difficulties in other areas. If you directed monetary policy and an expansionist programme to maintain agricultural incomes at some fair level close to, let us say, pre-depression levels, it might well prove that other groups in the nation would have a very substantially enlarged income. If the incomes of these other groups was too greatly enlarged, that might be a source of difficulty resulting from maintaining incomes of the most oppressed groups. But may I quickly point out that in any attempt to maintain the income of the people in various sections, or of producing groups, it is important to fit in with monetary policy an appropriate policy of taxation. The two, I think, can hardly be separated. And if, in attempting to direct the policy to maintain incomes of certain producing groups, the incomes of other groups are unduly enlarged, a tax policy should impinge upon the incomes of those other groups in order to maintain the necessary control. This point has been given a great deal of consideration, because in checking anything that might prove to be undue inflation or expansion, we have weapons, and one of the weapons that can be selectively used is taxation.

We turn next to the problem of monetary policy. The problem is to restore balance. It may be pointed out that if monetary policy is adapted to restore balance between different groups in the community, it may possibly be done at some cost to certain groups. However, there are serious losses suffered by other groups when correction is not attempted. We must always consider a policy in terms of what happens when the results that may be possible to achieve by that policy are not achieved. Putting it in another way, under rigid deflationist monetary policy, you can easily have a competitive deflation which can be very serious for a country, in many ways just as serious as competitive inflation. So far, I should say we have much more of competitive deflation than of competitive inflation.

In turning to this problem of restoring balance, I should like to give the comments of others very briefly. Sir Josiah Stamp has said in one place: "The problem of price level is the most important single problem of the age." In another place he has said: "With business men, there is still a sneaking feeling that references to the price level are academic and high brow, not practical and immediate. And yet it is the most bitterly practical of all questions."

Or to quote from a recent speech of Mr. Eccles, chairman of the Federal Reserve System of the United States: "We must better understand the bad effects of unbalanced price conditions, whether resulting from ill advised price, wage and hour policies by labour and industry or from other causes, such as failure to sustain agricultural income."

Then the problem of monetary policy is the problem of attempting to restore economic balance between different groups in the community. Restoring that balance is in general produced first by what we call credit expansionist measures. By credit expansionist measures we mean an attempt to enlarge the amount of credit available to the community; so that, as a result of the spending of that enlarged credit, the income of all the people will be increased. By credit expansionist measures then an attempt is made to even the flow of incomes to various producing groups.

The second type of credit expansionist measures is an attempt to secure a better balance of prices by an exchange rate policy, that is to say, by realigning the rate of exchange so as to secure better prices for groups in the community, which are in an unfortunate position.

I mention these two types together, because while normally we think of an expansionist programme as involving governmental spending, that is not necessarily the case. An expansionist programme may involve a realignment of the rate of exchange. Let us now consider when the one of these two possibilities is employed and when the other is employed.

In the United States, as we know, the expansionist measures relate largely to bank credit. The government borrows at the bank and obtains credit, and since ample reserves are already available, it is possible for the government so to borrow. Then it spends that credit in an attempt to try to enlarge the amount of investments. By investments we mean construction of roads, schools, hospitals, etc., because that particular industry, the construction industry, is the one that has been most depressed in the United States. In fact, we sometimes say to our classes that if we could subtract from the depression as a whole the depression in the building trade, we would have eliminated 75 per cent of the depression.

In other countries business and construction do not play so important a role as they do in the United States. In Canada, in determining the central and most important factor of national income, investment is important, but I think exports are more important. The volume of the exports in Canada takes the place of the volume of investments in building and construction in the United States. I can illustrate that comparison by the fact that Canada exports about 25 per cent of her total production; we in the United States export slightly less than seven per cent. Exports are almost four times as important here as with us. Contrariwise, of course, investment in construction is of relatively small importance.

With that in mind, then, we may say that an expansionist programme depends upon the position of a nation, depends upon what is the most important factor in building up national income. Is it construction, building, and all that, or is it volume of export? Because if it is the first, building and construction, one programme should be adopted; if it is the second, more emphasis should be placed upon the policy relating to rate of exchange, because that generally operates so peculiarly and so quickly to build up the income of countries that export a large percentage of their production. It also fits in peculiarly with an attempt to redress the balance for the groups that have been most oppressed—the raw material producing groups—which are in almost every case engaged in the primary export industries of such countries.

You may ask, where is the starting point? Is the starting point an expansion of credit or a realignment of the rate of exchange? Well, the two go together. In considering those two possibilities, may I turn briefly to the record of a number of nations to see how their recovery has related to the rate of exchange policies?

Perhaps the first country to depreciate its currency was Japan. This was in 1930. I am aware that some qualification must be made as to the figures for Japan because of the war situation there, but they nevertheless have interest for us. In 1930 the depreciation occurred. By 1937 the index of industrial production for Japan stood at 171, compared with 1929 as 100. This was exceeded only by Russia. Russia started from zero, so the increase in her industrial production is in very great order.

Next, Australia. The depreciation occurred there also in 1930, but more especially from the first part of 1931. There the national income has been restored to levels substantially above the pre-depression period. No index of industrial production has been calculated for that country.

Now turn to Sweden. Sweden depreciated her currency, along with Great Britain, in 1931. Her 1937 index of industrial production was 149, almost 50 per cent above the 1929 level.

In Great Britain the depreciation occurred in September, 1931; the index of industrial production in 1937 was 124.

In Canada the depreciation against the dollar occurred in a small measure in 1931, but not until 1933 in any substantial degree. Her index of industrial production in 1937 was 100.

We in the United States have not done as well. Our depreciation came in 1933, and our index of industrial production in 1937 was 92.

Belgium depreciated much later, in 1935; her index of industrial production was 94 in 1937.

You will observe that, measured by the index of industrial production, recovery has been much less complete for those nations which hung on bitterly to a deflationary programme than for those nations which initiated an early expansionist programme.

The extreme case is reached when we turn to France. There was no realignment of her currency until 1936. Her index of industrial production in 1937 stood at 83.

One is greatly impressed with these figures. They show, without a single exception, that as the nations of the world finally abandoned the deflationary programmes that were common in the early part of the depression, abandoning deflation in most cases by altering their rate of exchange policy, which in turn permitted credit expansion, recovery followed. This was not only because of that alteration in monetary policy, but because it permitted the adoption of other policies that fitted well with it in bringing about expansion and enlargement of output.

Why is it that the rate of exchange policy, that is to say, the disconnecting of a currency from gold, is peculiarly important as a starting point? Usually it is because nations adhering to the gold standard when faced with deflation break the connection with the gold standard. This we refer to as altering or realigning the rate of exchange. When that is done as a starting point, but not necessarily as influencing the whole of what happens, then a nation is free to engage in some measure in an expansionist programme, whether it be bank credit employed by private industry, as in the case of Great Britain, or the expansion of credit employed at first by governments in other countries.

There are a few significant figures as to that credit expansion, and we might give them. Take commercial bank deposits, the checking type of deposit that is the

money of most communities which use checking accounts, or in other words, the money of commerce. In Great Britain the amount of bank deposits in 1937 was 30 per cent above 1929.

In Sweden bank deposits in 1937 were 97 per cent above 1929.

In the United States they were only 28 per cent above 1929.

In Canada, in 1937, the volume of bank deposits of a commercial nature was only about equal to the level of 1929.

The decline in the worst of the depression was to about 96 in Great Britain, a slight fall, to 76 in the United States, and to about 64 in Canada. There was no decline at all in Sweden.

It is rather puzzling to some of us how this speedy deflation in bank deposits occurred in some countries other than the United States. There our difficulty was the bank collapse, but why the great decline in Canada, where that great difficulty did not exist? When, as I pointed out, an expansionist programme is started, directed towards the enlargement of the national income, that expansionist programme takes the place, or may be measured in terms of a large volume of bank deposits. That enlarged volume may be the result of borrowing by private industry. That is really the way we have climbed out of every depression in the past. Or it may be that if private investment is chilled, if individual businesses do not see opportunity for expansion, some stimulation in the direction of enlarging the output may be given by means of government action. In the case of exports some stimulation may be given by a realignment of the rate of exchange. The price consequences of the latter for a country producing and exporting commodities the price of which is set in other countries, are unusually severe. This I think should be illustrated.

Take the case of wheat. When wheat is sold abroad the price obtained for it is set, we will say, in the first instance in the Liverpool market, and the price paid in the Liverpool market depends upon the funds available to people there purchasing wheat in terms of consumer purchasing power. If the rate of exchange in terms of pound sterling is altered for the Canadian people, it in no way affects the purchasing power, in the short run, of the people of Great Britain. Their ability to buy and their demand remains quite unchanged. But when the rate of exchange is altered, the price which continues without any substantial change at Liverpool becomes a higher price when the pounds paid are translated into Canadian dollars.

We might ask, in considering alteration or realignment of the rate of exchange, just how can a policy of that kind be embarked upon? How do you judge how far it should go? The answer lies, as I see it, in the balance you are attempting to restore. If you get agricultural incomes enlarged, and the incomes of other primary producers enlarged, you have restored balance; and the restoration of that balance is the test of how far such a monetary policy should be pursued.

Let us consider the actual rates of exchange as they have affected Canada since 1929. I have singled out for this purpose three years, 1931, 1932 and 1933. Clearly the year 1932 is the most adverse year, but it would be difficult to handle all of the years in terms of averages. At the very pit of the depression, in 1932, the rate of exchange on London was 3.98, that is to say, a pound yielded \$3.98. That represents a decline of about 18 per cent in the value of the pound. Canadian wheat was sold abroad to people in Liverpool, and in Great Britain generally, whose purchasing power was really mounting, not declining, the back of the depression having been broken for them. These purchasers were presumably quite prepared to pay approximately the same price in pounds, shillings, and pence for wheat as they paid before. However, the rate of exchange in terms of Canadian money having declined to \$3.98 for the pound sterling, all wheat sold abroad obtained only \$3.98 instead of \$4.86.

That represented a decline of 18 per cent. On the basis of these figures, let us work out a calculation for illustrative purposes, supposing that 100,000,000 bushels

of wheat were sold at \$1.00 a bushel, to make the calculation simple. Every time wheat to the amount of a pound sterling was sold, \$4.00 was obtained instead of \$5.00, that meant a decrease of 20 per cent in receipts. I might point out that I refer to 1932, which was the most unfavourable year.

Now in contrast turn to the policy pursued in Australia. As has been pointed out, the income of agricultural groups and primary producers decreased the most during the depression. For Canada as a whole, the decline in income was not quite one-half, but in agricultural income the decline was approximately to 40 per cent. If those incomes were one-half of the total income, it would really mean that other incomes, exclusive of agricultural, declined only to an index of 60 per cent. That is the unbalance which a rate of exchange policy attempts in some measure to correct. In the case of Australia, while monetary policies should be related to other policies which attempted to restore balance and to divide the sacrifices over the whole community, at the very time that the pound sterling depreciated in terms of Canadian dollars, it was allowed to appreciate in terms of Australian pounds; the appreciated rate was £125 Australian to £100 sterling, which gave to the primary exporters of Australia substantially enlarged incomes.

I might point out that the exchange policy is of peculiar importance to western agriculture. The West produces about one-half of the Canadian exports, and of these exports 60 per cent go to the United Kingdom; this is in contrast to eastern Canada, 65 per cent of whose exports go to the United States. Therefore, you have a situation in which one section of the country is peculiarly interested in the pound rate and another in the dollar rate. Their dilemma was to find some balance between the two.

With that in mind, we might turn to the question of future policy. It would seem to me that the future policy should work in the interests of greater flexibility. We should not consider monetary policy as something to be resorted to only in a serious emergency. We have recently seen that the pound rate is about \$4.70, which represents a decline of almost seven per cent from the level that prevailed in the first half of this year.

In the United States the people are concerned over that decline in the rate of the pound sterling, which decline is about the same for them as for Canada. They are not concerned because of the fact that it may affect the recently concluded trade agreements between the two countries, but because of the fact that the British market plays such an important role in steadyng the prices of agricultural products. That decline in the pound sterling has repercussions upon agricultural prices in the United States. It is this result which is most important.

You may ask, should the United States and Canada adopt a different policy in view of these most recent developments? I do not believe I can give the answer, but I think it merits very serious study. The effect of that altered rate is translated into agricultural prices. To put it in one way, whatever the cost of subsidy to wheat growers in Canada will finally prove to be, that cost will be greatly affected should the present level for the pound sterling continue.

Upon what basis should a nation consider alteration in its rate of exchange? The basis that has been accepted, and which is really implemented in the terms of the tri-partite agreement between Great Britain, France, and the United States on their currency level, is that if the cost levels of a country are relatively high, it may compensate for those higher cost levels by downward alterations in the rate of exchange relative to those countries that have lower cost levels.

Why are cost levels high? They may be high because of an expansionist programme in which credit enlargement is attempted either by encouraging business or by governmental action which tries to enlarge the return to the different income groups, which sends their rate of return up, which increases costs. If that is done, it is permissible to alter the rate of exchange in the opposite direction under the terms of the agreement, because that nation with a higher cost level, in order to

compete on a basis of equality, not to have any advantage, requires a lower rate of exchange. Neither nation is injuriously affected. But the expansionist programme enlarges incomes, which is the purpose in that country; as a result this internal policy as to credit becomes a governing factor with respect to the rate of exchange policy of other countries.

For countries which are primarily raw material and agricultural producing, greater flexibility is required. Results uniformly show that when the production of raw materials is maintained during a depression, their prices are most adversely affected; they decline very sharply. But most raw material producing countries are also debtor countries, and there is no price that is more rigid, of course, than debt. The problem is to reconcile those two, and reconciling them presents a problem, the solution of which is not easy.

I would like to suggest a solution given by John H. Williams, who is vice-president of the Federal Reserve Bank of New York, and also the economist for the Open Market Committee of the Federal Reserve System of the United States. In a book on the "Lessons of Monetary Experience," in facing the problem which has been presented, and in suggesting that, in the future, currency policy be more adapted to conditions as they have developed, he says, "On the other hand, countries chiefly dependent upon foreign trade and foreign capital have most to gain and to lose by exchange variation."

This would refer to Great Britain, Holland, Belgium, and Switzerland.

"They most need exchange stability when foreign trade is prosperous, and they most need a currency adjustment when capital in-flow is threatening to produce a boom, or when depression in the outside world is threatening their foreign markets. From this point of view, countries like the United States, and probably France could best afford to have an unchanging currency, once a generally sustainable structure of exchange rates had been attained. Countries like Australia or Argentina would probably want fixed exchanges the larger part of the time, but with some provision for both depreciation and appreciation. Currency appreciation would be indeed a new phenomenon in the history of young countries, which like most others have been less concerned to stop booms than to stop depressions; but currency depreciation in depression would be only repeating what they have always done. The only new suggestion is that it might be worked out in some more orderly and deliberate fashion, as a conscious instrument of policy. For such countries, internal money management must be at best a minor part of the policy. Since these countries are a minor part of the world economy, currency variations by them would probably not hurt others so much as it might help them." (Applause.)

THE CHAIRMAN: Thank you, Dr. Upgren. If there are any here who would like to ask questions or make observations on this paper, we would be glad to take a few minutes now to do so.

MR. AULD: We had some discussion today about the Argentina policy of controlling exchange in connection with the exports of wheat. If it is a good thing for Argentina, why would it not be a good thing for Canada?

DR. UPGREN: The question is the problem of controlling the rate of exchange in relationship to the price of wheat.

If kept within limits of maintaining balance, it would seem to me that policy could be resorted to. We have at the present time an exchange rate adverse to the wheat growing interests in a rather moderate measure; should that continue, it would seem to me that countering that policy to offset the results might be given serious consideration.

MR. AULD: Again I ask, as it seems to be effective in Argentina to the benefit of that country, why is it not equally beneficial and adaptable to Canada?

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DR. UPGREN: Your question relates to controlled exchange. The policy in Argentina is to buy exchange officially through the exchange control agency, which is an agency of the government, at one rate, and to sell it at another. The spread is of the order of 15 and 16, a rather small spread. Even though it is a small spread, it has yielded very substantial sums, and those sums in turn have been used in part as a direct aid to agricultural prices.

The results of such a policy, as I see them, are to place some taxation upon the people who are large buyers of imports, and to pay sums so received to those who are the exporters. The direction and the use of the policy, it would seem to me, should be dictated by the balance or lack of balance that exists between such groups. We have to pay money on these things in one way or another, and the problem is the best way to provide for the better balance which results from such payments.

A VOICE: I wonder if Dr. Upgren would care to express an opinion as between the system in force in the Argentine and the controlled system in force in Australia, as they might apply to Canada?

DR. UPGREN: I think I implied in my answer to the first question a choice between the policy of the Argentine and that of Australia. When I answered the first question, I was referring to the type of policy in Australia, which is the controlling of the rate at a given figure, £125 Australian to £100 sterling. In the case of Argentina we have a peculiar situation. A nation may have different policies. One is to hold the rate rigid in terms of gold; another to allow the rate to depreciate and hold it rigid in terms of some currency, such as sterling. The policy in the Argentine has been somewhat of an intermediate policy, depending upon an alteration in the rate of exchange from time to time, not in full measure, but in some measure, so that that alteration would produce a balance in their international payments between their imports and their exports.

On balance I would be inclined not to favour the control of exchange, for reasons suggested in one of the earlier questions this afternoon. In Argentina agriculture is a tremendously important part of the entire economy, and that may warrant a special policy with respect to control of the rate, but a deliberate control of exchange, particularly if it is at any time used to maintain artificial price levels, will usually result in the creation of a great many more problems; because if your control is not one whereby you attempt to seek balance, to get redress in costs and prices, it is a control that may lead to controlling other things. At that time the point of departure for the Argentine economy was probably some situation with respect to a rate of exchange, and her position was such that I think we should agree she needed a depreciated rate. The Germans had an inflation in 1923 that went to untold limits, and it is suspected that any form of monetary manipulation, regardless of what form it might take, would mean another dose of that kind of inflation. As a result, the people were not prepared to accept a readjustment in the rate of exchange, and therefore accepted a controlled exchange to control that rate, which has resulted in a host of additional controls of one kind or another. I have heard Austrians defend the development of that control in their country, and I think the answer to it is that they were wrong. The answer to it lies in education, in seeing just what readjustments are needed, and in educating the people to face the problems that these required readjustments presuppose.

A VOICE: Dr. Upgren gave us some information as to the extent of recovery as measured by industrial production covering certain countries, including Australia, which was very close to the top. Is there a similar figure available in connection with the Argentine?

DR. UPGREN: First, I would like to point out I did not give an industrial index for Australia, I referred to the fact that the national income was substantially above the pre-depression level. In the case of Argentina no industrial index is recorded.

A VOICE: Is there any figure?

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DR. UPGREN: I can refer you to a book, a very splendid book, Phelps' "International Economic Position of Argentina." I think the figures are available in that book.

MR. COOTE: Would Dr. Upgren care to express an opinion as to whether it was in the national interests for Argentina and also for Australia to have depreciated their currency in 1930?

DR. UPGREN: In 1930, when the depression came on, Argentina could not borrow abroad. Inability to borrow abroad may be a good thing. Because they could not borrow abroad, the government borrowed on what is called a floating indebtedness, obtained in a substantial measure from banks in the Argentine, with the result that when she faced the depression, if we think of the banks' statements, the proportion of short-term government securities and bonds in the banks was a very substantial amount. If, under those conditions, you attempt to go the route of deflation, the bank collecting loans to maintain liquid position may throw an almost double burden on private industry. Of course, the government was quite unprepared to fulfil their obligations at the bank, and that brought about a situation that led rather quickly to a flexible exchange rate policy. My impression is that the national income there is up to the pre-depression level. Certainly in 1936 and 1937 exports were all very substantially larger than in pre-depression years.

MR. COOTE: Would you include Australia? Would the conditions in Australia be quite similar to the Argentine?

DR. UPGREN: We must look at all the facts. The question is, are conditions in Australia similar to those in the Argentine? If you put wheat in about the same position in each country, and in the Argentine think of meat, and in Australia think of wool, I think conditions would be quite comparable.

MR. COOTE: Would the conditions in Canada, with the effort to industrialize eastern Canada, be comparable, generally speaking, with the conditions in the Argentine and Australia?

DR. UPGREN: Yes, in general. Now we are translating these two countries, which we agree are quite comparable, to the Canadian situation. I referred to the channels of trade in the West and East, the West depending heavily on sterling, and the East exporting to the South and heavily interested in the dollar. That presents a difficult problem. The problem is not so much interpreting that position solely in terms of payments that each area must make. If we do, however, we find that in terms of payments, Canada must make in dollars, let us say, about \$220,000,000 a year. If we enquire back of that figure, we find that the major share of the figure is the return the industries in Canada pay on stocks to owners of those stocks residing in other countries. The major share then is dividends. As you all know, dividends are not a fixed charge upon a community. The lesser part, which has been calculated as payable in terms of a fixed rate, amounts to about \$80,000,000, a very substantial reduction from \$220,000,000. Take that \$80,000,000 and apply, let us say, the exchange rate policy of depreciating 10 per cent below sterling; on the basis of the 1933 figures you would have had an increased burden of about \$45,000,000. This is a substantial item, it is true, but when compared with the possible enlargement of the national income that might have resulted from the adoption of policies to expand the national income, that would have been, I would think; a rather low amount. Moreover, of that obligation a very heavy share, about two-thirds, was payable by the government, and governments, it has been suggested, should always try to keep their eyes on the budget of the people to some extent, and not too exclusively upon their own federal problem. (Applause.)

MR. COOTE: When you refer to this amount of \$80,000,000 as being payable on the basis of a fixed rate, are you referring primarily to the servicing of the external debt?

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DR. UPGREN: Yes, I did mean to say I was referring to the servicing of the debt held in terms of dollars.

MR. COOTE: Is it not true, so far as Canada and her interest on that debt is concerned, that if it is paid for, aside from new borrowing, it is paid for by the export of goods? Do not those goods bring the same amount of foreign currency regardless of the position of our dollar in the United States or the position of the pound in Great Britain?

DR. UPGREN: The question is, are those debts in effect not paid with goods? There is no question about that. Canadian exports fell away before the depression from \$1,300,000,000 to a trifle over \$600,000,000. Obviously, if some small share of that could have been maintained, it would have easily served to pay debts. I said that two-thirds of the debt was payable by governments; the rest was payable by private industry. No one has pointed out more forcibly than a Canadian the ease with which those industries should have been able to service all of that debt abroad. G. R. Noble, in "Lessons of Monetary Experience." (Farrar and Rinehart), says that these industries making payments abroad would have profited substantially by that exchange rate policy, thereby facilitating payment of all operations abroad on private industry account.

MR. COOTE: There is a point I would like to make, and if you agree with it I would like to know. Our debt was serviced abroad and there was very little new borrowing, practically none. If that is so, it must have been paid with our exports. I feel that western Canada made a large contribution to the national interest by producing wheat for which the producer received but 30 cents a bushel; and the exchange resulting from the sale of that wheat was used by our government to meet its commitments abroad. If we had a policy similar to that of Argentina and Australia the government would have paid more in Canadian currency to get our exchange, but in effect that debt payment was made with farmers' 30-cent wheat, and 2½-cent hogs. Am I at least partially right that we did make that contribution?

DR. UPGREN: Yes, this is also true, for the willingness to produce for export provided the needed funds. As I see it, it is rather difficult, of course, to single out how the payments are made. You have your funds obtained by exports and you have government taxes to make payments abroad. I would be inclined to hold the case more upon the trend in the income in the various groups. I would say that any group that suffered a decline, let us assume of 60 per cent on its income, obviously paid a greater share of the costs. I would agree that is certainly partially correct, but I would point out that it would be difficult to single out in any way those particular payments.

MR. COOTE: The price level for agricultural products for western Canada fell, I think, by over 60 per cent in 1932. It reached a level somewhere between 30 and 40. Using 1926 as 100, it would appear that we did make quite a contribution, and using the terms used today, maintaining or restoring balance, that we were entitled in 1932 and 1931 to have somewhat the same rate of exchange as existed in Australia and Argentina.

DR. UPGREN: However these problems of restoring balance between different groups may be tackled; the problem of the difference in the exchange rate as between these three exporting countries still exists in some measure, because as a result of the alteration of the rate of exchange by Australia and Argentina, export industries were favoured. Those industries would not be unfavourably affected until the price structure for other things produced internal rises.

It is interesting to note that while the alteration favoured the exporting groups, because it tends to translate itself immediately and almost fully into incomes for the exporting groups, contrary to what is frequently asserted, the prices of other goods, finished products, do not necessarily rise accordingly. Agri-

cultural costs are fixed at 50 per cent. In the case of industry, if it can secure enlargement of output, it need not secure prices at all. This is demonstrated by the record of the automobile industry from the years of the depression to the years of recovery in 1936. Exports increased 25 per cent, and the price level actually fell. Industry has very heavy fixed costs. As output expands these fixed costs for each unit of output decline, and greater profit can be made. The price rise is not necessary to restore profit margin; so that when the exchange rate policy is used by the export groups, it does not necessarily lead to any adverse results in terms of manufacture.

MR. COOTE: I presume you are quite aware that in western Canada we borrow under what we call the debtor account. It was said yesterday by Dr. Mackintosh that the country developed rapidly with borrowed capital. Our farming community is quite heavily involved in debt, so that the low price level of 1931 and 1932, without monetary adjustment such as they had in Australia and Argentina, probably pressed heavier on our farmers than it would have borne on the farmers of the Argentine or Australia. I might point out that the farming industry as a whole has had no relief in the matter of its debt structure. Some of us have been able to take advantage of The Farmers' Creditors Arrangement Act, but the industry as a whole has suffered. In view of that fact, the fact that the pound has depreciated seven per cent, is there a case for consideration now as to the policy Canada should pursue in connection with establishing or maintaining a certain value of the pound in Canada rather than going with the American dollar regardless of what happens to the pound?

DR. UPGREN: The question is, what should the policy be at this point? In brief, the suggestion I would make is that a policy of this kind is something that should be thought of continuously and not resorted to only on certain occasions. What rate of exchange policy should be adopted is under such continuous consideration in many countries, and I would be inclined to say, just as the tri-partite agreement says, that if a country has a relatively high cost level, then alteration of the rate in favour of it does not represent competitive advantage.

I happen to be in an academic position and I am free to discuss what I observe. It has been said that the United States and Great Britain have some tacit agreement, or implicit agreement, with respect to the value of the pound sterling. There is no such statement in the trade agreement. It merely says that if the exchange rate changes sufficiently to make the agreement favour one country, the agreement may be terminated. Because of our great increase in wages, through our N.R.A. and C.I.O. development, which was so spectacular a year and a half ago, I would support the position that we have a high cost level, and that consequently rather than accept a depreciation in the pound, a depreciation in the dollar would be more in line with that cost level. I have answered the question by indirection. I am not so familiar with the Canadian cost structure, but I would rather expect, because of the closeness of the relationship between us, that cost structure would relate more closely to that of the United States than of Great Britain. I would suggest information on that should be uncovered before one could be quite prepared to support a conclusion. As for agriculture, I think we know, generally speaking, that including debts, the costs are, of course, high.

A VOICE: Don't you think the rapid deflation after the war had a great deal to do with our troubles as agriculturists, both here and in the United States? Don't you think that Canada, having increased its debt very rapidly when prices were high before the deflation came on, would be justified in having a premium on its exports now?

DR. UPGREN: I hope I will be understood if I answer that in this way. There is a debt of Finland to the United States which represents advances made largely for the transportation of wheat during the period of starvation after the war at a rate of about \$50 per ton (present rates are less than \$10); I think we can merely say that you have there an extreme case of debt repayment. I think if debts are

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Inurred at high price levels, every effort should be made to afford justice between debtors and creditors.

A VOICE: I don't think you quite got my meaning. We increased our debt when prices were high, and doesn't that give us a just reason for wanting our money low while those debts are still unpaid?

DR. UPGREN: If I understand the question correctly, it is, shouldn't they want the money low? Would you mean by that the rate of exchange?

A VOICE: Yes, shouldn't we justly get a premium on our shipment to Britain, and lower Canadian money until these war debts contracted by high prices are paid?

DR. UPGREN: I would still be inclined to revert the case to the proposition I made before. I would want to see the incomes of the various groups, and how they would be affected by this debt by taxation. I don't know what the view would be here, but we have a vigorous spokesman for central banking in the United States, who in the address I referred to a few moments ago, pointed out that if debts are to be retired, if the burden is not too great, it is necessary for the United States to secure an enlarged national income, which he places at 88 billion dollars, as compared with the present national income of about 65 billion dollars or thereabouts. The President of the United States put it much more bluntly when he almost inferred that if these debts are to be paid, an expanded national income must first be secured.

MR. FARMER: Dr. Upgren, would you say whether or not enlarged income means enlarged standard of living?

DR. UPGREN: I tried to point out that the first emphasis early in the depression was purely on the price level. In many quarters a rise in prices gives us of itself nothing more to eat and wear. It does facilitate repayment. More recently our interest has been focussed on national income. The thing I tried to emphasize, in setting up the criterion to be used in relation to monetary policy, is that national income should be broken into two parts, the prices at which goods sell, and the quantity of those goods sold. The reason is that you get an enlarged income, and an enlarged price level, profit margins are widened, production and output are stimulated, and the income itself will be enlarged in real commodity terms as well as in monetary terms.

MR. FARMER: The speaker also referred to the fact that those monetary policies, as they resulted in expansion of credit, should in turn effect an increase in the national debt. Would he not say that by the very enlargement of credit a further burden of debt was imposed upon the people?

DR. UPGREN: I can again cite some figures. The national income in Great Britain is about 118 per cent of the 1929 level. The share of income taken in taxation is 20 per cent. In the United States the national income is slightly better than 80 per cent, and the share taken in taxation is about 17½ per cent. The important thing to the people of a country, as is realized in these countries where taxation is deducted at the source, is the income after taxation. The problem is, if a government increases the debt to stimulate output and the income, what is the relationship between the enlargement of income and the amount of debt contracted? Even in the United States the enlargement in income in recent years exceeded rather substantially most of the debt incurred, and I should quickly point out that not all policies were responded to in as favourable a way as they might have been.

THE CHAIRMAN: On your behalf I want to thank Dr. Upgren for his very interesting and informative address, and both you and he for the interesting discussion that has followed.

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Wednesday, December 14, 1938

9.30 a.m.

Chairman, Hon. John Bracken

THE CHAIRMAN, LADIES AND GENTLEMEN: Before commencing the programme as it is printed you will remember that yesterday I stated one question had been left up in the air, and that perhaps some of those here might care to answer it. This morning Mr. Morris, Vice-President of the Ogilvie Milling Company, volunteered to take three or four minutes to further amplify that question about the low price of the loaf of bread in the Old Country and the high price here. Mr. Morris, Vice-President of The Ogilvie Flour Mills Co. Ltd., Montreal, Quebec.

MR. G. A. MORRIS

VICE-PRESIDENT OF THE OGILVIE FLOUR MILLS CO. LTD., MONTREAL, QUEBEC.

MR. PREMIER, LADIES AND GENTLEMEN:

I want to say first of all that I am not a baker, I am a miller. I have not prepared any brief on behalf of the bakers, but from my general knowledge I would like to give you some facts to correct any erroneous impression which may have been created from some of the statements which were made yesterday, and which I am sure were not made with any intention of being unfair to our own bakers.

The first observation I have to make is that comparisons are not dependable unless the conditions are similar. It is essential to know what formulae your bakers are working upon, and what the price may be for the flour. In some countries, as we know, the price of wheat is quite distinct from the price of flour. In other words, what is being paid for wheat to the farmer is not necessarily being passed on to the baker and he is able to buy his flour at a lesser price in proportion to the cost of the wheat.

It is also necessary to know what are the wages paid, the taxes paid, and whether the bread is sliced, wrapped or delivered. There are all sorts of questions which go into the value of a loaf of bread.

Generally speaking, however, you will, I think, be interested to know, depending on the quality of the loaf produced, a baker gets some 270 pounds of bread out of 196 pounds of flour. If, therefore, a one pound loaf of bread is reduced by one cent, and all of that reduction is to be borne by the flour, flour has to go down \$2.70 a barrel, and wheat has to come down approximately 60 cents a bushel.

Personally I believe our bakers are making the very best quality of bread in the world. I will admit that it is a matter of personal taste, but I am convinced of this that the quality of bread which is being produced in Canada cannot be produced today in Germany for 6½ cents a pound on \$2.28 wheat; neither could it be produced in Great Britain at four cents a pound even if you gave the flour away.

I enquired yesterday for some of the facts regarding prices of bread in Winnipeg, and I found that the best quality of bread is being sold to the householder wrapped, sliced and delivered—bear that in mind, please—at eight cents; unwrapped at seven cents. Bread is, however, obtainable in the stores, of a slightly lower quality, wrapped and sliced for seven cents, or two loaves for 13 cents, 6½ cents each; unwrapped, six cents; and two loaves for 11 cents, 5½ cents each. In some cases I have been told that bread has even been quoted as low as five cents a loaf, and in one case four cents a loaf, unwrapped, unsliced, and at the store.

It is not therefore quite fair to leave the impression that bread is costing eight cents a pound without taking into consideration all the factors. I do want to make this one observation too, that a low price for bread elsewhere is not necessarily an indication that your baker is charging you an unfair price. On behalf of those who work in the baking industry I believe you would find if you were to investigate some of the conditions behind the very low prices which are prevailing in some places for bread—in one city in the West alone they are selling 10 loaves

for 30 cents—if you went into the bakeshop and saw the conditions under which the men are working, and knew the wages which they are being paid, you would not buy that bread; you could not do so in fairness to your fellowmen who are working in that industry. This is not a condemnation of the small baker, because I know personally a great many of the small bakers are doing splendid work, but in many cases these men who are selling bread below a reasonable price are not paying their bills, and not contributing to the civic, provincial and federal cost of government in this country.

I think it is fair to say, generally speaking, that the percentage of profit which the bakers in this country are making certainly does not exceed five per cent on their annual turnover, and five per cent on a seven cent loaf is just approximately one-third of a cent per-loaf.

I would like to say that I have been personally very greatly impressed with the possibilities of scientific research in solving the problems which we have discussed here from day to day. May I read you just a very brief paragraph from a most interesting booklet, which I recommend to everybody issued by the vice-president of the Dupont Corporation. This booklet deals with many of the problems confronted by the railroads, and in it he points out what the laboratory has done to solve many problems in other industries.

For example, in 1913 it took six weeks to apply the 22 distinct coats of the old style paint and varnish to the automobile body, which body required 11 coats of primary surfacers, four to six colour coats, and two coats of rubbing varnish and one coat of finishing varnish. By 1920 through the Herculean efforts of management and research, the body paint job had been cut to 1½ weeks. Then in 1923 the research chemists produced the first of the nitro cellulose lacquers, and the time was cut to two days. Now the motor car body can be finished from the raw model in a single day. With the old type repainting was necessary which cost about \$150. The present finishing will last the life of the car.

I personally am a very strong believer that the scientists will be able to solve many of our problems. I said to a group of my own friends the other evening, "It seems to me a good scientist is something like the description of a broker. A broker is a man who starts by knowing very little about a great deal. He keeps on knowing less and less about more and more, until finally he knows practically nothing about everything." I think if the scientists would start from that point of view he may yet discover an answer to a great many of our problems. Personally I believe, and this may be of some encouragement to you, we are on the eve of developments in the milling and baking industry which may go a long way towards solving the steady decline which has taken place in recent years in the consumption of breadstuffs.

I would like to say, entirely unofficially and personally what is a real and growing conviction in my own life, which I confess has yet to be adjusted to a new philosophy of thinking, namely that national security, material security, the things about which we are thinking so much these days, are unobtainable apart from spiritual fitness, and that the practical problems which we are discussing are incapable of permanent solution unless we are prepared at personal cost to substitute a new standard of unselfishness for the spirit of super-nationalism which dominates the present world. In times of crises, individual or national, it is the spiritual forces that we call upon to give us aid. If these spiritual forces are lacking within us we become parasites drawing upon the resources of others, or else we go down to defeat. I take this little extract from a most interesting statement issued lately by leaders of the Empire, including Earl Baldwin, whom we all love.

"The strength of a nation consists in the vitality of her principles. Policy, foreign as well as domestic, is for every nation ultimately determined by the character of her people and the inspiration of her leaders; by the acceptance in their lives and in their policy of honesty, faith and love as the foundation on which a new world may be built. Without these qualities the strongest armaments, the

most elaborate pacts only postpone the hour of reckoning. The real need of the day is, therefore, moral and spiritual rearmament."

To which it seems to me we might add this thought, that spiritual solvency of the nation is impossible unless individually we are prepared to face its personal implications.

Mr. Premier, Ladies and Gentlemen, this is not a sermon, but a statement which very inadequately describes a layman's unfolding vision of the new national spirit which we must capture before we can create plenty and bring peace.

THE CHAIRMAN: Thank you very much, Mr. Morris. As you know, up to now we have been trying to get a picture of the world situation regarding wheat. Commencing at this time we are going to try to measure the effect of low prices on our domestic economy.

Before asking Professor Hope to speak to you, I want to say how much we appreciate the co-operation which has been extended to us by the Government and the University of Saskatchewan in our plans for this conference. Professor Hope is from the Department of Farm Management of the University of Saskatchewan, and he is going to talk to us now on "What the Price of Wheat Means to the Western Farmer."

WHAT THE PRICE OF WHEAT MEANS TO WESTERN FARMERS

by

PROFESSOR E. C. HOPE

DEPARTMENT OF FARM MANAGEMENT, UNIVERSITY OF SASKATCHEWAN

MR. CHAIRMAN, LADIES AND GENTLEMEN:

Professor Britnell will deal somewhat generally with the effect on other institutions, and I will confine my attention to the situation as it affects the farmer. In this paper I must apologize for not having a lot of detailed statistics for Manitoba and Alberta. Perhaps it is a good thing, but some of the information I shall give you is only available for Saskatchewan. Where it is possible I will try and deal with the other provinces as well. Dr. Mackintosh gave us such a clear picture of the development of western Canada that I shall confine my introductory remarks to the background of western settlement.

BACKGROUND OF PRAIRIE SETTLEMENT

For 200 years after the granting of the charter of the Hudson's Bay Company, the territory surrounding Hudson Bay, extending to what is now Manitoba in the south and the edge of the prairie in the west, was under full control of that company. Rupert's Land, as this territory was called, was exploited practically entirely for furs. In the early 1800's the Red River settlement was founded by Lord Selkirk who obtained a land grant from the Hudson's Bay Company. But the Bay officials never took very kindly to the idea of spreading agriculture into a region which they considered only as a source of fur wealth.

For some 20 years before the Civil War, American pioneers and fur traders were pressing westward across the plains to the Pacific. The government of Canada realized that unless the open spaces of the West were populated this vast empire might be lost to the more vigorous policy of our neighbour to the south.

In order to settle this western region within the British Empire, three things were necessary: Rupert's Land and the Northwest Territories had to come under the control of the Dominion, a transcontinental railway had to be built entirely

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within Canadian territory, and a vigorous settlement policy under the stimulus of free land, had to be instituted.

The year after Confederation saw the historic transfer of the rights of the Hudson's Bay Company to Great Britain and then to the Dominion of Canada. In 1872 the first Dominion land settlement act was passed, the system of western land surveys was decided upon, and the possibilities of a transcontinental railway were explored.

Settlement was very slow in the period 1872 to 1880, due to the difficulty of access to the West either overland from the Great Lakes to Manitoba, or from the south through St. Paul.

After ten years of political wrangling the final charter for the Canadian Pacific Railway was granted in 1882. Construction of the main line proceeded rapidly and the continent was spanned by 1885.

The policy of the Dominion government was to settle the land as rapidly as possible. The Canadian Pacific Railway also wished to see the country settled without delay in order to create a demand for its lands in the railway belt and to increase the volume of business of the railroad.

Settlement in the West received a setback in the intermittent drought of 1886 to 1896 which coincided with the low prices for grain in that period. But after the drought was over settlement proceeded apace, and reached a peak in 1911.

The swarming of settlers into the West from 1896 to 1911 took place under very favourable circumstances: (1) The trend of world price levels had been steadily falling from about 1867 to 1872 until 1896. With the turn of the century the large discoveries of gold in South Africa began to have their effects on prices, and wheat prices, along with other prices, rose irregularly from 1896 to 1914. (2) Following the drought of 1886 to 1896, the western plains experienced very favourable weather conditions right up until 1916, with the exception of an odd year such as 1910 and 1914. (3) The great building and railway construction activity in the West supplied plenty of work for the settler when he needed surplus funds for living until his farm was fully developed. (4) The free land policy of the Dominion government, the Pre-emption Act of 1908, and the cheap lands of the Canadian Pacific Railway were very important factors in enticing settlers to move on to the western plains.

As a result of all these factors the land hungry people swarmed over the western plains. To many settlers from the more humid climates, land was land regardless of its soil texture. As the Dominion placed practically no restriction on any area, many lands unsuitable for cultivation were broken up.

Inflation prices for grain and lagging costs during the war made it possible for even low grade lands to show good profits. The breaking up of inferior lands continued.

Some of the poor lands in the West were abandoned even before the war, some after the post-war deflation of 1920 to 1923, and still more in the secondary post-war deflation of 1929 to 1933.

The period of 1924 to 1929 in western Canada was one of recovery from the severe deflation of 1920 to 1923, and the drought of 1917 to 1920. Rainfall was somewhat above the long time normal, and prices for farm products were comparatively satisfactory.

A TYPES OF FARMING IN WESTERN CANADA

The settlers who came to western Canada, many of whom are the mature farmers of today, came from many countries and many walks of life. They came into a new, a strange country, one with which most of them were not familiar. Those who were farmers before, brought with them their previous experiences of a different climate, they brought their small financial resources, some brought their tools, equipment and livestock. Gradually, by the method of trial and error

lasting a lifetime they evolved a type of farming that was adapted to the specific physical environment in which they were situated, modified by economic conditions. The three natural factors of soil, climate and topography, and the economic factor cost of transportation for the various products, to the distant market, determined for them the products that should be grown. They had little personal choice.

As a result of this trial and error method we have today the wheat farming areas of the level, semi-arid plains, the cattle and sheep ranches of the south on hilly-land or level areas of low precipitation and poor fertility, and the gradual transition to more emphasis on general livestock and coarse grains as we spread north, east and west in ever-widening circles from the plains regions. In the plains region of Saskatchewan, coinciding with the brown and dark brown soil zones, the typical farm obtains 85 to 90 per cent of its cash income from sales of wheat. The balance of the income is about equally divided between sales of coarse grains and livestock and livestock products. The long time, 1918-1937, average yield of wheat in these zones has been 11.0 bushels for the brown soil zone and 11.6 bushels for the dark brown soil zone. The extreme variability of climatic conditions in these two zones is indicated by the brown soil zone average yield of wheat of six bushels from 1929 to 1937 which was only 40 per cent of the average yield of 15 bushels from 1918 to 1928. In the dark brown soil zone the average yield of wheat was 7.3 bushels from 1929 to 1937 or 48 per cent of the average yield from 1918 to 1928.

In the park belt region of Saskatchewan, which corresponds to the black soil zone, normally about 60 to 65 per cent of the cash income comes from sales of wheat and the balance in about equal proportions from coarse grains, and livestock and livestock products. The park belt of Saskatchewan comprises a little less than one-third of the cultivated area of the province and has escaped the ravages of drought. The variability of climatic conditions is much less in this zone than further south. The average yield of wheat in the park belt of Saskatchewan from 1929 to 1937 was 14.3 bushels per acre, which was 80 per cent of the average yield of 17.8 bushels for the period 1918 to 1928. For the whole period 1918 to 1937, the average yield was 16.1 bushels per acre.

In the older settled areas of the grey-soils wooded region the agriculture is similar to that of the black park belt. The soils are a mixture of grey and black and wheat yields have been very satisfactory. The average yield from 1929 to 1937 was 18.3 bushels or 91 per cent of the average yield of 20 bushels from 1918 to 1928.

ECONOMIC CHARACTERISTICS OF PRAIRIE AGRICULTURE

In a young agricultural country it is quite typical for many farms to be carrying considerable debt. Many farms are in the process of being enlarged to an economically sized family unit. The use of credit is normal in the acquiring of more land. In addition to this there is what one might call the farm debt cycle always operating. A farmer goes into debt for a farm, after many years he may pay for the farm. By the time he is ready to pass on, the farm may be free of debt. At his death or retirement the farm is handed on to one of his family or it is sold. If sold, another new debt comes into being as farms are rarely sold for cash. Even if given to one of his sons, frequently it is mortgaged to pay out the interest of the other heirs. Thus there is always a considerable amount of fixed charges for debt service in agriculture. This does not apply to the same degree in industry. If the chairman of the board of directors of a corporation dies, or if half or even all the directors die, the corporation is not sold. There is no new debt created. The corporation carries on as before.

Prairie agriculture is characterized by a relatively high percentage of fixed costs to total costs. The typical farm in the West is the family sized farm where almost all the labour is performed by the family. The family must be fed, clothed, housed and its health attended to. If we consider the cost of keeping the family as a fixed charge, as much as mortgage interest is, then the total fixed charges of prairie agricultural costs range from 50 to 70 per cent of total costs. These fixed charges include family living, interest and principal payments, and depreciation of buildings and equipment.

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It is because of the high fixed charges in agriculture that farmers, perhaps more than any other group, are particularly concerned with prolonged periods of low prices. In a period of low prices the farmer cannot reduce his labour costs by firing his family. It is true he can reduce some of his living costs, but there is a definite limit even to that. His life insurance is fixed and most of his cash costs of living are the result of retail prices set by powerful groups who limit production in order to maintain prices. His buildings and machinery-replacements can be postponed, but eventually they have to be met if he is to stay in production. The interest and principal of all his debts become due and payable. Before very long, in spite of all the economies possible, even to the extent of depriving his family of the bare necessities of a subsistence living, and the little so-called luxuries that make life worthwhile, the farmer is bankrupt and realizes that after 20 years of labour he has nothing he can really call his own. It does not help matters to say that the farmers should not go into debt and thereby decrease their fixed charges. As pointed out previously this is a normal and necessary thing in the transfer of ownership. It is true that some farmers have contracted too much debt even for normal times, but surely the creditors have had as much to say in this matter as the debtors. It takes two people in a contract for one to go into debt.

LONG-TIME NORMAL EARNING POWER OF PRAIRIE FARMS

This takes us to a consideration of the normal earning power of prairie farms in relation to indebtedness. In the past there has been a great deal of ignorance on the part of farmers and credit agencies as to the normal earning power of prairie farms. A few above normal years, for prices or yields or both, tend to distort long time judgments.

A few years ago a member of the Department of Farm Management of the University of Saskatchewan made a careful analysis of 195 farm loans in the Prairie area. These loans were placed from 1910 to 1927, but most of them from 1920 to 1925. By 1933, 41 were paid off, 36 were foreclosed and 84 were still current. The average debt against current loans was \$9.87 per acre compared with an original loan of \$11.79 per acre, after an average duration of 12 years. The interest rate was eight per cent. Based on the 12 years of payment history of current loans from 1922 to 1933, these farmers were able to pay about three per cent annually on the appraised value of the farm real estate. As the total farm capital includes live-stock and machinery as well as real estate, it appears reasonable to infer that on the average they could not earn more than three per cent on their total capital investment payments in good years. The best lands had a better payment history than the figures quoted and the poorer lands much worse. The results of this study indicated that either the poorer lands were appraised by the loaning company at too high a figure, or else the amount loaned was too great.

A study of the loaning operations of one of the largest loaning agencies in Saskatchewan is now being undertaken. Preliminary results of this investigation also indicate that on the average the farmer borrowers have earned about three per cent annually on the appraised value of the real estate alone, which is not all the farm capital.

The numerous debt studies in Saskatchewan have indicated quite clearly that over a long period of years farmers make a relatively low return on their capital. This would indicate that because of interest rates usually charged on farm loans in the West, that farms even in normal times are carrying just about all the debt that they can reasonably service. Probably a year or two of adverse conditions do not seriously impair their solvency, but when a series of years of low prices is incurred, especially if it happens to coincide with low yields, an impossible situation soon develops.

BASIS OF THE DEBT STRUCTURE OF WESTERN CANADA

As a result of favourable weather from 1921 to 1928, and favourable prices from 1924 to 1929 the debt and credit structure of western Canada for farms, businesses, homes, local and provincial governments was based on the assumption that these conditions would continue. This confidence that favourable climatic

and economic conditions would continue was shared by creditors and debtors alike. Mortgage companies, banks and other credit agencies were very anxious to lend money throughout all of western Canada. That they had so much confidence is indicated by the fact of the relatively high appraisal values and relatively high loans placed on land that is only above the margin of successful cultivation under conditions of relatively high prices and good rainfall.

The economic and climatic history of the West was comparatively brief up to 1929. In fact it still is, but we have learned a great deal in the past ten years. Because of this comparatively short experience—about one life time—it is natural to expect that both creditors and debtors would make mistakes of judgment. Our policy should be to see that the same mistakes are not made again.

The Dominion Bureau of Statistics estimated that for the period 1926 to 1929 the average annual cash sales of farm products in the three Prairie provinces amounted to about \$530,640,000. For the three years 1931 to 1933 the annual average amounted to \$164,439,000, a reduction of \$366,201,000 per year. For these three years alone, 1931 to 1933, the total reduction in cash income amounts to over one billion dollars compared with a similar period of three years before the depression and drought period. Cumulating each annual deficit below the average 1926 to 1929 figure of \$530,000,000, the total shrinkage in cash sales up to 1938 amounts to approximately \$2,700,000,000. The debt structure of western farmers prior to 1929 was based on the assumption that this total deficit would be in the form of income in the years following 1929. The unfortunate turn of events since 1929, has resulted in some debt reductions, worn out equipment, depleted homes and clothing and in some cases impaired health of the farm population. And the story is not finished.

The Saskatchewan brief before the Rowell Commission on Inter-Provincial Relations, after exhaustive analysis estimated the total farm debt of Saskatchewan at December, 1937, to be approximately \$482,000,000. In 1938 practically no interest was paid on this debt, only half the taxes were collected, direct relief and seed and fodder have been given on a big scale following the widespread drought of 1937. It is estimated that the total debt increased about \$64,000,000 during the past year and now stands at \$546,000,000 or about \$18 per acre of crop land, or about \$25 per acre of seeded crop.

But the total farm debt is only a part of the story. Ten years in which a combination of prices and yields have reduced two-thirds of the farming population to a subsistence level, and a steadily mounting debt, have left their mark on the physical equipment of the country. The Saskatchewan brief estimated that it would require at least \$200,000,000 to bring the farm buildings, machinery, household furnishings and clothes of the farmers of Saskatchewan up to the moderate standards of 1931. Since this figure was calculated another year of partial depletion has been experienced. Under the circumstances the \$200,000,000 which amounts to \$1,450 per farm is conservative. Over the drought area itself, comprising two-thirds of the province it would be close to \$2,000 per farm.

There is a feeling prevalent among some people who are not entirely conversant with the West, that because of the numerous cancellations of indebtedness, such as taxes, relief and arrears of interest, the debt situation is solved and it only needs average yields with present prices to clear up the whole situation. Such is far from the facts. It is true many concessions by creditors have been made. But in Saskatchewan at least, due to a continuance of unfavourable climatic conditions for the past two years and low prices this year, a situation has been reached where considerably more than half the farmers with average yields and present prices for wheat (80 cents basis Fort William) cannot hope to liquidate their debts and restore the conditions of their farms and homes to the pre-depression level.

COST OF PRODUCTION OF WHEAT IN RELATION TO PRESENT INDEBTEDNESS

I now wish to discuss the present cost of producing wheat and the estimated debt for specified regions in relationship to present prices for wheat. In the costs

that follow are included family living costs ranging from \$700 to \$850 annually for a family of four or five depending upon the region and whether or not hired labor is employed, all cash operating costs, reasonable depreciation charges on machinery and buildings. The cash living costs used are not estimates. They are the averages reported by farmers to us for two periods, the low subsistence level of 1933 and the level prevailing before the depression. We consider that they are very conservative figures if our policy is to maintain a healthy satisfied rural population. The cash operating farm expenses are the results of surveys made in representative areas, from 1930 to 1935, adjusted for present price and cost conditions. The half section and section farms are presumed to be operated by horses. The use of a tractor on these farms would not materially change the picture. No interest of any kind is charged, nor charge for use of land. The calculations are taken from published reports of studies made by the University of Saskatchewan within recent years.

On the basis of average yields of wheat of 20 bushels per acre (1918-1930) for the Regina plains and Rosetown area the costs of production are approximately 55 cents per bushel for the half section farm, 44 cents for the section farm and 34 cents for a two section power farm with tractor, combine and truck. This two section power farm is the most efficient wheat producing unit which it is possible to set up. Probably not more than one per cent of the farms of the West are as efficient as this. On the basis of past debt studies made in the Regina plains, with due account of debt reductions since, and crop yields and prices, the estimated average debt for these areas will amount to about \$26 per acre of crop land or \$52 per acre of wheat. At six per cent the interest charge amounts to 17 cents per bushel of wheat sold from an average crop of 20 bushels. The cost plus interest charges per bushel of wheat would amount to an average of 72 cents for the half section farm, 61 cents for the section farm, and 51 cents for the two section farm.

Many of the soils of the plains region of Saskatchewan are loams. Two typical areas of loam soils are located in the municipalities of Wellington, just north of Weyburn, and Rosemount and Reford municipalities, about half way between Saskatoon and the Alberta boundary. From 1918 to 1930 these two areas each had an average yield of 13.6 bushels of wheat per acre. On the basis of those yields the cost per bushel of wheat sold is 71 cents for the half section farm, and 50 cents for the section farm. The estimated debt now amounts to about \$20 per acre of crop land or \$40 per acre of wheat or the interest charge at six per cent amounts to 20 cents per bushel of wheat sold. For the half section farm the cost plus interest on estimated debt is 91 cents per bushel. For the section farm the cost plus interest is about 70 cents per bushel of wheat sold.

The silty clay loam soils of Gravelbourg area, southwest of Regina, are some of the best in the brown soil zone. On the basis of an average yield of 13 bushels to the acre (1918-30) the typical half section farm has costs of about 70 cents per bushel, the section farm 50 cents a bushel, and a two section power farm with tractor, combine and truck, 42 cents per bushel. This area has been particularly hard hit by drought. The estimated debt at present on these soils is about \$28 per acre of crop land. The interest charge per bushel of wheat is about 29 cents. The cost plus interest for the half section farm is 99 cents, for the section farm 79 cents, and for the two section farm 71 cents.

The picture presented is typical of the brown and dark brown soil zones of Saskatchewan, comprising about two-thirds of the cultivated area of the province. Over most of this area a blanket debt adjustment scheme was put into effect in 1936. But the increase in debt because of two poor years since that time has brought the debt back almost to the level prior to the debt reduction scheme.

So far this discussion of farm debt relates to the Prairie region of Saskatchewan, comprising two-thirds of the cultivated area of the province. The same situation probably holds good for the small area in southwest Manitoba and a

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fairly large area of southeastern Alberta, both of which have experienced a series of crop failures since 1928. For the park belt of Saskatchewan, which has experienced almost average crops since 1928 the debt situation is not so difficult, but it is still a serious problem. From farm debt studies made in this region in 1934 we do know that not all farmers have been able to meet the interest on their debts, let alone principal payments. With the possible exception of the best soils in the northwest area of the Saskatchewan park belt since 1929 farmers have been able to meet somewhat less than half the interest due on their indebtedness. Their problem has been chiefly a price problem. Without burdening you with further detailed statistics, we have evidence which would indicate that although the park belt area is not in such a serious condition as the open plains region, yet the typical farm of the park belt with average yields cannot meet all its obligations with the present farm price for wheat and coarse grains. Because of similar yield histories in the park belt of Alberta and Manitoba, the same would likely hold true in those regions.

SUMMARY

1. The prevalent types of farming throughout western Canada have been dictated chiefly by the factors of soil, climate, topography and distance from market. Personal choice has had little to do with it.
2. Considerable indebtedness on Prairie farms at any one time is a normal result of the nature of the family sized farm unit and the trend toward increased efficiency by enlarging this family sized unit.
3. The normal long-time earning power of the average Prairie farm is about three per cent on the total capital investment.
4. Relatively high fixed charges for family living, debt service, and depreciation of buildings and equipment is typical of the family sized farm.
5. The debt structure of Prairie farms prior to 1929 was based on the confidence of farmers and creditors alike that past price, cost and yield conditions would continue.
6. Ten years of intermittent or prolonged drought with low prices have resulted in an increase in the debt burden to excessive proportions over almost half the area of western Canada. In the remaining portion, although not so serious, the debts cannot all be serviced on the basis of average yields and present farm prices for wheat and coarse grains.

CONCLUSIONS

On the basis of the facts presented, if all the farmers of western Canada were entirely free of debt, or if they did not pay their debts, it would seem that the present farm prices for grain would probably barely maintain a reasonable level of living. It certainly would not maintain a reasonable level of living and enable them to build up their buildings, machinery, homes and personal effects up to the level prior to 1931.

Conservatively it would probably require with average yields a farm price for wheat of average grade of about 90 cents, with coarse grains in proportion to maintain a reasonable level of living and service the present debt on western farms. It would require somewhat more than this to restore the farming community to the condition of 1931.

In the light of the present world wheat situation a further drastic debt reduction policy is a partial solution of the western farm problem.

It has been suggested that farmers should learn how to live on a lower standard in order to meet the present debt situation. But any policy that compels such a solution does not solve the problem if we hope to maintain our present social system. (Applause.)

THE CHAIRMAN: Thank you very much, Professor Hope. I am sure everyone here regards your analysis of the situation as a very excellent one. I wonder if before I call upon Professor Britnell I might ask one question, more for the information of the audience. As I took it you stated in comparison with the period between 1926-1929, the value of farm products sold in western Canada after that time dropped to the value of \$2,700,000,000.

PROFESSOR HOPE: That was the total deficit?

THE CHAIRMAN: The total deficit based on values in 1926 and 1929, \$2,700,000,000. I wonder if Professor Hope could tell us how much of that was due to low yields, and how much to lower prices. I would ask Professor Hope to answer that after Professor Britnell gets through with his paper.

I will now call upon Professor G. E. Britnell, Professor of Economics at the University of Saskatchewan, Saskatoon, to lead the discussion. Professor Britnell.

PROFESSOR G. E. BRITNELL

MR. PREMIER, LADIES AND GENTLEMEN: I should first of all like to correct a slight misunderstanding which has arisen through my name appearing on the programme along with that of Professor Hope. I am not giving a paper, I am merely adding a footnote, as it were, to Professor Hope's paper. As a consequence my footnote will be decently short, and I hope it will be counted unto me for righteousness that I do not propose to hurl a single statistic at your heads.

It has been shown quite clearly in these discussions that despite the efforts of Dominion and Provincial governments, the farm debt of the prairie provinces remains at a level which continues to menace the agricultural population of this region with a steadily declining standard of living. The bulk of the farm debt of the prairie provinces is still held outside western Canada and the resulting geographical separation of debtor and creditor has made it difficult for the majority of creditors to realize the terrific impact of low wheat prices, accompanied over wide areas by low yields, upon the wheat economy, and the extremely limited possibilities of internal adjustment.

For there are numerous inflexible elements in the cost structure of the prairie wheat grower. As a result of this situation the wheat economy of these western provinces has remained, whether we are always prepared to admit it or not, a definitely high cost producing area.

High interest rates have been a factor in this situation. We have always been told that rates of interest in western Canada must be high because the risk is high. It might not be entirely inappropriate now to suggest that the risk has become a reality.

Secondly, the papers of Dr. MacGibbon and Mr. Bredt which we heard yesterday, have served to emphasize once again the fact that fixed railway rates constitute a much greater burden on the wheat grower in western Canada than they do upon his competitors in the Argentine and Australia.

High protective tariffs and an economically vicious system of administered prices for most of the goods which the wheat grower must buy, have effectively prevented relief in that direction. The wheat growers have, perhaps in a more complete sense than any other group in Canada, been compelled to purchase goods in an expensive protected market with the proceeds of an export sold in the competitive markets of the world for whatever it will bring. In times of depression when the barter terms of trade became particularly unfavourable to western wheat growers the relative weight of the tariff burden increases. Against the highly variable income of the West is set a rigidity of costs resulting from the absence of free

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competition in the determination of the prices of goods supplied by the industrial areas of Ontario and Quebec. For the presence and the operation of a high protective tariff make the possibility of adjusting other prices in the Canadian economy to meet the sharp decline in the cash incomes of primary producers extremely remote.

Yet in a period of depressed demand for export wheat, it is essential that the prairie wheat producers be put in a position where they can cut costs and carry on, but the maintenance of tariff schedules at high levels introduces rigidities unto the cost structure of western agriculture and placed the wheat growers in a peculiarly vulnerable position. The more elastic the demand function for Canadian wheat, the more vicious will be the effects of inflexible elements in the cost structure of prairie wheat producers. Faced with dwindling markets, effectively prevented by the tariff from cutting costs, they are forced to sell their wheat crops at a heavy loss and live out of capital. The results of such a situation are seen in the exhaustion of reserves, a mounting burden of private and public debt and of governmental relief, abandoned farms and a steady depreciation of machinery, buildings and equipment, a sharp decline in the standard of living of the entire agricultural population, and all the other marks of a chronically depressed economic region.

Thus the wheat grower has found himself helpless in the grip of forces over which he can exercise no control and with a debt burden, private, municipal and provincial, increased to hopeless proportions. This mounting burden of private and governmental indebtedness in an area characterized by a highly variable net income, has thrown an increasing strain on economic and political institutions in the Prairie provinces with default and repudiation emerging as possible alternatives to further sacrifices. Such drastic policies ease the immediate pressure enormously, but have, obviously, undesirable social, political and economic repercussions. They can scarcely be regarded as offering a satisfactory solution of the problem. It should be possible for us, as Canadians, to work out a more orderly solution—a more equitable way of spreading the losses of prolonged depression and drought over the entire economy of Canada, and of cutting those losses in the future.

Materially higher prices appear in the light of the discussion of the past three days extremely unlikely. Therefore, lower costs are vital if the West is to survive. But lowered costs will not benefit the West alone. Wheat may not occupy, with the rise of mining, pulp and paper, and hydro-electric power in eastern Canada, as Professor Mackintosh has pointed out, as important or strategic a position in the Canadian economy as in the past, but a very large part of the economy of Canada—her railway systems and her manufacturing industries to mention only two instances—is geared to the production of between 300 and 400 million bushels of wheat a year on these western plains. If the continuance of that volume of production can be guaranteed by breaking down the rigid elements in the cost structure, the advantages to eastern Canada, in assistance in carrying the burden of the Canadian railway structure, in increased western capacity to service a reduced debt, and in increased western purchasing power, must be obvious.

THE CHAIRMAN: I am sure that I speak the thoughts of everyone here when I say that the University of Saskatchewan, through the two men who have spoken this morning, has made a very distinct contribution to the conference.

MR. HUTCHINSON: MR. PREMIER, LADIES AND GENTLEMEN: As a young farmer I homesteaded in Alberta 39 years ago, and I have been living on the homestead ever since. Naturally I am inclined to approach this subject more from the individual farmer's standpoint, as I am more conversant with that feature than I am with the larger features that have been so ably brought to our attention in the wonderful papers that we have had here at this conference. I am particularly pleased with the two papers we have had this morning—while the others were fundamental, of course, and give us a distinct background for the whole picture—these two speakers this morning have brought it down to earth where we can get hold of it. In discussing this question I probably will not tell you anything you do not already know, but possibly it will not do any harm to draw your attention to a few features.

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An intelligent discussion of this subject will be greatly facilitated if we fully realize the tremendous importance, even the absolute necessity, of agriculture in our whole economic set-up. We sometimes discuss this question in the light of whether it is worthwhile saving agriculture and keeping the thing going or not. I think probably a great many people, while, as I say, they realize the importance of agriculture, do not realize the absolute necessity of it in our whole economic set-up. I am quite sure the farmer does not, for surely if he had, he never would have permitted the building up of an economic system—I hesitate to use that expression because I don't think we have got an economic system; it is far more like an economic mess a good deal of the time—to take the form it has, in which he plays such a very important part, and in which he has always received until very recently such very scant consideration. Not until his condition became so desperate that it affected everybody's income, did you hear much concern expressed for the welfare of the farmer.

Originally, you know, the tillers of the soil and the keepers of flocks and herds were "the people." They were lords of creation in their own right—and what we term "the business world" originated in serving them and has been built up around them.

World business in the final analysis simply consists of taking the products of the primary producer, transporting and processing them to the point where the consumer can use them and then distributing them to the consumers a very large proportion of whom are the primary producers. That last point is very important and must not be lost sight of.

It is estimated that over two-thirds of the world's population is engaged in agriculture, so that the farmer plays a double role in our economy. He not only supplies the necessary raw material that makes the whole thing work, but he also buys back a very large proportion of the finished product, and in that way contributes greatly to world trade. If for any reason the remuneration that he receives for his product is reduced to such a point that he is prevented from buying his requirements, it makes a terrible dent in the country's business.

My father used to tell a story to the effect that the organist and the old sexton who pumped the organ of a church in Yorkshire got into a discussion one Saturday night in the pub as to who made the music. The organist being glibber of tongue insisted that he made the music, and talked the old man down. Next morning when he got up to play the opening anthem he could not get any music. The old sexton stuck his head in and said: "Noo, who do st think mak's the music?" I suppose for the first time in his life that man on the organ stool realized that, if he was going to function somebody had to supply the wind. Should for any reason the farmer cease to operate for a season the gentlemen in swivel chairs would feel just as embarrassed as did the man on the organ stool. If you have any doubt whatever of the absolute importance of agriculture in our western set-up, and in fact in the Canadian set-up, visualize if you can these three western provinces without any agriculture. Who would be here and what would they be here for? What kind of little villages would you have where now stand the cities of Winnipeg, Regina, Calgary and Edmonton? Probably a few fur traders' cabins.

This great city of Winnipeg itself is simply a toll gate, which never neglects to collect the toll on the farmer's products going out and his supplies coming in. There is scarcely a building among all the splendid ones in the city that has not been paid for from that toll.

While all primary production is of fundamental importance in our economy, agriculture is absolutely indispensable. Even modern man might conceivably be reduced to the lowest deplorable depths of poverty and be compelled to do without all the wonderful facilities with which science and man's ingenuity has supplied us, but he still must eat if he is to survive at all.

We have had some remarkable figures presented to us here in various forms showing the extent to which the western provinces have contributed to the wealth of the country in the matter of grain production alone over the past years. From

1910 to 1937 inclusive, according to figures of the Dominion Bureau of Statistics, the value to the farmer of all grain crops was \$10,550,410,000; wheat alone being \$7,112,980,000. To get the gross value there should be added at least 1½ billion dollars more to cover freight and handling charges to seaports, all of which was collected by Canadian concerns. That is a tremendous amount of money the farmer had to spend, but it also is a tremendous amount for those with whom he spent it, to receive. As Mr. Wesson says, we may not be growing wheat for the glory of God, but we have grown a tremendous amount of it for the glory of somebody else besides ourselves.

According to figures submitted by the Dominion Bureau of Statistics in 1928, when we had a good crop in this country, and a fairly good price, western Canada purchased from eastern Canada on the basis of values at points of origin, goods to the amount of \$387,000,000.

In 1933 when we had a lighter crop, and a very much smaller price, western Canada only purchased from eastern Canada goods to the extent of \$80,000,000. Of that tremendous shrinkage of \$307,000,000 a good deal more than half of it was attributable to the low price. That shrinkage caused a tremendous amount of disappointment, heartbreak, and disaster in thousands and thousands of western Canadian homes, and surely it must have had a considerable influence on eastern business. What more would our eastern friends need than that set of figures to convince them of the importance to them of a good price for Canadian wheat?

It is true that a great many of our western settlers went into the wheat game on the basis of getting rich quick, making a stake in a short time and getting out. However, practically all of those who have not already got out, with or without the stake, have been disillusioned. Today the vast majority of western Canadian farmers are endeavouring to build up comfortable homes, to equip them with modern conveniences now available, if they could afford them, to educate their children better, and to make farm life worth living and attractive enough so that the younger people will stay on the land. That is what the difference between profitable and unprofitable price of wheat means to the western farmer. The time was when it was physically impractical to install these modern conveniences in farm homes. However, that day is past, and all sorts of appliances of that kind are readily available at a reasonable price. But how many farm homes have them? According to the census of 1931, one out of 73 homes in the Prairie provinces had a bathroom equipped with running water. One out of 52 had running water in the kitchen, and one out of 34 had electric light. That was just at the beginning of the depression, and since that time a great many of those people have been compelled to abandon those facilities because they could not meet the cost of maintenance. It is true we have a lot of very fine homes in western Canada although they are regrettably in the minority, and many of their owners, while once comfortably off now find themselves unable to maintain them owing to the tremendous shrink in agricultural values. Many of the men who produce the country's wealth live in what would be looked upon as slums, if tolerated at all, in the city. The average farm home does not begin to compare with the average home in the city in the matter of comfort and convenience, and surely no fair minded person would deny the farmer his right to expect that.

You city dwellers, take a trip by rail or highway through the West, and as you go along note every farm home you see, and figure out how many of those homes appeal to you as places in which you would like your family to live. Look over the average farm home and visualize what it would take to put it on the same basis of comfort and convenience as the average city home. Over and above the desirable improvement it would make in the living conditions of the farm family, look at the tremendous amount of business it would make for nearly everyone else in supplying those improvements. A very large proportion of western farmers would make those improvements, not only in housing, but over the rest of the farm, could they get enough for their products to allow them to do so, and the resultant effect on the country's business would be most remarkable.

Figures show that while the gross cash income of farmers in the Prairie provinces for the four years preceding 1930 was approximately \$2,100,000,000, for

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the four years following 1930 it was only \$700,000,000, or in other words, their purchasing power had been decreased by two-thirds and that was previous to the serious drought years. Need we look much farther for a cause of business depression? If that was the cause, surely the reverse would be a cure and that cure must involve price, not just volume.

There has been considerable comment lately, and quite a lot said here, regarding the attempt to broaden our markets for western agricultural products by industrial utilization. That is certainly good business and very commendable, but at best it is a long distance plan.

Mr. H. B. Herrick, assistant chief of the Bureau of Chemistry and Soils in the U.S. Department of Agriculture, in addressing a convention of the American Chemical Society, has this to say:

"The agricultural millennium is not just around the corner. Anyone familiar with the measured progress of a well organized research programme must realize that at least ten years must pass before the full impact of this mass research (four new laboratories being established by the government) on the problem of industrial utilization of agricultural products becomes apparent.

"It is not so difficult to convert farm products into useful industrial products, but it is a tough assignment to find new uses which can pay farmers somewhere near parity prices for their corn, wheat, cotton and other basic crops. The wisdom of mining the fertility of the soil by producing surpluses to sell at abnormally low prices for industrial purposes is at least open to question. Until the chemists find new uses for the farmer's products that can pay him a fair price, it seems only wise to adjust agricultural products, insofar as possible, to the available markets. Certainly every effort should be made to secure the widest possible market for wheat."

A few years ago one of our Alberta cities was greatly elated over a proposed paper mill that was going to make paper from straw, and certainly no one denies that that can be done, but eventually it turned out that even if they got the straw for nothing, which would not help the farmer much, they could not compete with the wood pulp product.

Not long ago an experiment clearly demonstrated that gasoline could be produced from soft coal, but at a cost of 50 cents per gallon, or if it were sold to compete with other gasoline it would mean paying half the present price for coal. Ask any coal operator if that would solve his problem.

Any development along the line of utilization of farm products industrially, while increasing the volume of such products used, does not involve reasonable remuneration to the producers; although naturally quite attractive to grain companies, railroads, and such other secondary interests involved, does not solve the farmer's problem. All it means to him is to work harder, deplete his land more to grow more and to sell it for less.

Any plan which takes ten years to eventuate is not really a solution at the present time to our present difficulties, commendable though it may be. It is not much more effective in solving the problem of our present situation than would be a campaign to prevent children from playing with matches after the house is on fire, and if this old world pulls off even a normal crop next year it looks very much like a conflagration of some sort—a fire sale to say the least of it—unless something is done in the meantime.

Certainly, until our own federal government, together with other nations of the world, get together and bring about some kind of a solution for this problem, the Canadian farmer is going to be just as insistent as Mr. Evans told us the American farmer is that he must be provided in some way with a just share of the wealth he produces.

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I do not know whether this puts me out of the class of the optimists or not. I certainly object to being called a pessimist. I do not think any of us westerners are pessimists; I think we are all more or less optimists or we never would be here. It is said there are three kinds of people in the world. There is the pessimist who buys a belt and suspenders and spends all his time worrying for fear the buttons will come off or the belt break and an embarrassing situation occur. Then there is the ordinary person who purchases either a belt or a pair of suspenders and has enough optimism to think that will prevent anything happening. Then there is the real optimist who goes without either belt or suspenders and does not give two whoops whether anything happens or not. (Applause).

THE CHAIRMAN: I am sure you all agree that Mr. Hutchinson has contributed a very important part to our discussion.

Mr. Craig Pierce, President of the Calgary Board of Trade, will now present a brief on behalf of that organization.

A SUBMISSION
by
THE CALGARY BOARD OF TRADE

Presented by MR. CRAIG PIERCE

The Board of Trade of the city of Calgary wishes to take this opportunity of submitting its views in respect to the wheat situation in Canada, and especially as it pertains to the welfare of the farmer in the Prairie provinces.

The Calgary Board of Trade sincerely recognizes that the interests of business men and the interests of farmers go hand in hand. In the Prairie provinces it is impossible to have sound business conditions except on the basis of a sound agriculture. Perhaps some indication of this inter-relationship is evidenced by the fact that I, an Alberta farmer, have been elected president of the Calgary Board of Trade, and in my capacity as both a farmer and head of the Board, have been selected to present this brief to this conference.

In connection with business organization in Alberta, we feel that we have made a distinct advance in recent years. Some 30 Boards of Trade in the province have formed a central organization known as the Alberta Chamber of Commerce and Agriculture. In the formation of this body the business men of Alberta have sought and are seeking to secure, not only a better understanding of the problems of agriculture, but to render what assistance they can in bringing about better conditions for the farming industry. We believe this to be a significant development in the face of the conditions which confront us.

In presenting the views of the Calgary Board of Trade, I must do so in the light of the conditions which we face in the province of Alberta. The welfare of the city of Calgary and its business organizations, are closely related to the growth and development of the province of Alberta. We are conscious, and I am sure the rest of Canada is conscious, of the resources which are available in our province.

Those of us who are closely associated with the past, present, and the future of Alberta, are singularly struck with the diversity of opportunity which exists there. Wheat growing is supplemented by many other economic activities. Alberta is the second largest coal producing province in the Dominion. The Turner Valley is now revealing itself as one of the Empire's greatest oil fields—its utility being greatly increased since 1936 through the production of high grade crude oil. The northern part of the province is now developing as a mining area. In the south we

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have our ranches with thousands of head of cattle. In this area we also have our irrigated lands with their diversity and stability of production. We also have a beet sugar industry in the Lethbridge area providing employment and very steady incomes to a considerable number of people. In the central and northern part of the agricultural area of Alberta, we have a diversified agriculture where grain growing is carried on in conjunction with a well developed livestock industry.

We note these facts in the economic position of Alberta for one particular reason. That reason is to point out to this conference that in spite of the diversity in agriculture and industry within the province which we represent, our economic position is still largely governed by the well-being of our 100,000 farmers, and particularly, the well-being of those engaged in the production of wheat.

And if we are so singularly affected by what transpires in connection with wheat in the province of Alberta, you will readily understand how significant this factor is in other parts of the Prairie provinces which have not the diversity of industry with which nature has provided us in Alberta.

We would like to place on record before this conference two important facts with regard to the wheat situation in Alberta:

1. The wheat industry of Alberta in its physical aspects has survived the difficulties of the past eight years. Our production plant is still intact and is able and willing to carry on. We went into the depression in 1930 with 7,930,000 acres of wheat and in 1938 the province of Alberta had 7,969,000 acres of wheat. Therefore we say with confidence that given adequate markets, Alberta will continue to play an important part in the wheat industry of western Canada, and in particular in supplying grain for westward shipments through Pacific coast ports.
2. The province of Alberta has demonstrated a very definite natural advantage in the production of wheat. Our soil and climate are such that the yield of wheat in Alberta has, for the past thirteen years, been consistently above the yield experienced in other parts of Canada.

The following table shows the yield of wheat in Alberta and in the rest of Canada for the years from 1926 to 1938:

Year	Average Yield ALBERTA (bushels)	Average Yield
		Rest of CANADA (bushels)
1926	18.5	17.5
1927	27.4	19.0
1928	25.5	22.7
1929	12.3	12.0
1930	18.5	16.1
1931	17.7	9.8
1932	20.4	14.5
1933	13.0	9.9
1934	15.0	9.9
1935	13.2	11.0
1936	8.8	8.5
1937	9.4	6.1
1938	17.7	11.5

During the period from 1926 to 1938 the average yield of wheat in Alberta was 16.5 bushels per acre, whereas the average for the rest of Canada for the same years was 12.9 bushels per acre. We indicate these facts to show that Alberta has demonstrated a natural advantage as far as consistent wheat production goes, and this in itself indicates that every encouragement should be given to the farmers of Alberta to continue in the industry in which they have achieved such marked success from a production standpoint.

In connection with the wheat problem which we are experiencing in Canada, the Calgary Board of Trade has certain views which it would like to place before this conference.

OUR DEBT TO AGRICULTURE

I often wonder if Canada, as a nation recognizes the debt which it owes to agriculture, especially during these past years of depression.

Farming differs from almost every other business, in that production goes on year after year with little regard as to whether that production represents a profitable enterprise for the farmer. In this respect agriculture differs from industry.

When we reached the low point of the depression in 1932 and 1933, business activity had been reduced to a minimum. Factories were closed or running part time, thousands of people normally employed in industry found themselves without jobs. What if in those critical days agriculture had ceased to produce in Canada? It would not have taken many months to produce bankruptcy in this country.

In 1932, when Canada was in the midst of the worst economic blizzard of its history, the farms of western Canada produced a wheat crop of 423 million bushels. In the production of that large crop at that particular time, and its subsequent handling by our railway systems, its financing from the time it left the farms until it was sold for export, and all the economic activity which it generated, constituted a major factor in Canadian business at a time when the country as a whole was confronted with probably the most critical situation in its history.

I believe that the contribution which agriculture made in Canada during those years in maintaining and in many instances increasing its production, was a very important factor in preserving our national solvency. It is true that the farmer received little or nothing for his effort. But he kept this great basic industry operating and functioning at a time when other industries were faltering.

FAIR SHARE OF THE NATIONAL INCOME

It is not necessary to point out to this conference that agriculture is the primary industry of the Dominion and upon the farming industry depends the economic welfare of a very large proportion of our population. This is true nationally and it is true in the West—it is even more true in the West.

The organization which I am representing today does not hesitate to advance the view that national well-being and national prosperity will never be achieved in Canada, and especially in western Canada, until agriculture receives its fair share of the national income. It seems to us that this proposition is so fundamental that it need not be discussed further. In the past all of us have talked about this particular problem, namely of securing a reasonable share of the national income for the man on the land, and for the farming industry as a whole, and yet we cannot say that we have achieved this result in Canada.

The Calgary Board of Trade wants to associate itself with this broad objective for agriculture and welcomes any proposals along fundamental lines which may achieve this purpose. We believe that Canada should, as a national policy, redirect its efforts toward this objective.

We believe that the time has come for a national effort in Canada to deal with the problem of wheat. We have every confidence that if the forces of agriculture, forces of business, and the forces of government are mobilized to deal with the wheat problem in Canada, that a solution can be reached and a new basis laid for future prosperity in the Prairie provinces, and in Canada as a whole. We hope that this conference will be a starting point of this effort on the part of everyone concerned.

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We have this further observation to make, however. We believe that we in the West and the people of Canada generally, must strive for a solution to our wheat problem along fundamental lines. It seems to us that for too long in Canada we have sought to deal with problems on the basis of emergency or patch-work measures. We cannot see, for instance, that subsidies can play a very large part in the solution of the wheat problem. For this year, for the next year and perhaps the year following, the West will have to have assistance along the line of the 1938 fixed price, but we do not think that this should be regarded as the solution of the wheat problem, either in the West or in the Dominion as a whole. We feel rather that such subsidies as are given in the next four years, should be treated as providing a breathing spell within which time basic adjustments can and should be made.

The Calgary Board of Trade has followed with very great interest the presentations of the various provinces of Canada to the Dominion-Provincial Commission. In reading the presentations of the western provinces, it is abundantly clear that the farmers of the Prairie provinces have been, and are operating, with certain grave disabilities arising from their position within the realm of Confederation, and largely arising from the administration of certain powers by the federal government.

Without again elaborating the nature of the extent of these disabilities which have been so forcibly presented to the people of Canada in the past year, we believe it essential that in the working out of the wheat problem, that the Dominion government should review its fiscal, monetary and trade policies with a view to relating its policies more closely and more definitely to the well-being of the primary industries of this country. We believe, in this respect, that the Dominion government has a contribution to make to a solution of the wheat problem along fundamental lines.

We cannot help but feel that those of us in the Prairie provinces must also take a hand in working out a solution to the wheat problem and thereby a solution to the difficulties which confront agriculture in the Prairie provinces. If national assistance is to be provided to us for the coming year or two, then we in the West owe it to the people of Canada to put forth a special effort on our own account to assist in bringing about a solution to our present difficulties.

Many suggestions have been made as to steps which might be taken in the Prairie provinces to meet the problems with which we are confronted. We will have to give very serious consideration to the utilization of our land resources and to the development of those areas within western Canada which have been demonstrated over a long period of years incapable of supporting agriculture based upon wheat production. We will have to give consideration in the Prairie provinces to the whole matter of soil conservation, because it is becoming all too apparent that continued wheat production on certain lands in the Prairie provinces is having a deleterious effect upon soil. We will have to give a great deal of consideration to the scientific basis of our agriculture in endeavouring to find those methods of tillage and cropping which will give us the greatest possible return from our available land and which will ensure the fertility of our soil. These are but a few of the many problems which can only be dealt with by the Prairie provinces, and we suggest that a renewed effort be made as our contribution to a solution of our present difficulties.

THE CHAIRMAN: I want to thank Mr. Pierce for a very well considered, well constructed and sane outline of our present difficulty.

Mr. Christopherson is attending the conference as a representative of the Regina Board of Trade and will make a submission for the business men of Regina.

RELATIONSHIP OF VALUE OF WHEAT PRODUCTION TO BUSINESS

SUBMITTED BY REGINA BOARD OF TRADE

Presented by R. L. CHRISTOPHERSON

"No submission by the Regina Board of Trade will be complete without recognizing the fact that the volume of business in Regina is entirely dependent upon agricultural prosperity and that, if for no other reason than our own welfare in Regina, we must do all we can toward the success and prosperity of the agricultural community around us." This statement is taken from the brief submitted by the Regina Board of Trade to the Rowell Commission.

The following sentence is taken from the submission of the provincial government to the above mentioned enquiry—"The dominant position of wheat in the economy of Saskatchewan as an export staple determines the standard of living of the great majority of Saskatchewan farmers."

From the nine month annual financial report of the city of Regina is this statement—"As this city is to such a large extent dependent on the progress and prosperity of the agricultural population which it serves, for its progress and prosperity, it naturally follows that there cannot be much of an uptrend in the city's development and expansion for at least another year."

These observations were made by different men writing independently of each other. They express the opinion of men in public and private business that the economic welfare of Saskatchewan is directly and primarily dependent upon the value of agricultural, and more specifically, wheat production, in the province.

This dependence is quite obvious when the following facts are realized. Over a period of 12 years, beginning 1924 and which includes the same number of so-called good and bad years, the value of primary products in Saskatchewan other than agricultural, averaged a mere $7\frac{1}{2}$ millions of dollars. For the same period agricultural production averaged 254 millions and of this wheat alone averaged 149 millions. This included six of the lowest producing years in recent times.

It is significant to note in this connection that in the years 1924-29, generally described as prosperous ones for western Canada, the average value of Saskatchewan's wheat production was 225 millions of dollars which was 62 per cent of the total production including primary and secondary industries. Meanwhile for the six years, 1930-35, generally described as depression years, the average value of the wheat production of the province was 74 million dollars or 31 per cent of all production.

This dependency on wheat seems destined to remain indefinitely for there has been relatively little increase in other primary industries within the last 14 years. The peak of production of primary products other than agriculture was 11 million dollars, first reached in 1929 and again last year. While this indicates some progress, the figure is only slightly in excess of the 14-year average of eight million dollars.

We, in the Regina district, and it includes a large area, are particularly impressed with the inevitability of the foregoing. It is a fundamental maxim of economics, and indeed of ordinary common sense, that a city or a district or an area of any sort should make a place for itself in world economy by producing that which it is best fitted to produce and then by trading that product for the products of other areas. Applying that situation to the facts, we see about us a vast level tract of soil of a nature fitted for wheat production, rain fall which by its

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very scantiness tends to produce the very best grade of hard wheat, and a bright sunny climate further conduced to the same end. On the other side of the picture the lack of trees, the near aridity with respect to rain fall, resulting in an absence of water both in streams and in wells, and the severe winter climate, militate against more varied production and what is known as mixed farming. It does seem that if the great open plain of Saskatchewan, in the centre of which Regina stands, cannot make a place for itself in the world's economy by the production of hard wheat it is doubtful if it has any place in that world's economy. There is no question that the area can do its part. It can produce the wheat. There surely can be found a place for it.

It is true that of recent years there has been a considerable development of mining in northern Saskatchewan. This, however, will never produce a large population which will be the basis of a varied industrial economy. So far as the great open plains are concerned, whose population has furnished such a wonderful market in the last 25 years for the products of Canadian industries, the mining area might just as well not exist except to the extent to which it happily may be made to contribute to governmental revenues. This is emphasized by the fact that mining nowadays is a mechanized industry requiring large amounts of capital. Saskatchewan itself has not this capital and the mines are being developed mostly by eastern capital and the returns go there. While we may welcome this development it means that the returns from the mines do not provide a flow of wealth into Saskatchewan, anything comparable to what has occurred in the eastern provinces.

The position as outlined with regard to production in Saskatchewan is responsible for the limited development of Saskatchewan's secondary industries. From 1924 to 1936 the value of manufactured products averaged \$48,000,000 while the corresponding figure for wheat alone, notwithstanding abnormally low years, was \$146,000,000. Industries depend firstly upon the existence of a large market which can pay for the products and, secondly, upon favourable conditions for the industries themselves. With regard to the latter point there is nothing outstanding in Saskatchewan's situation. In fact it is negative. As would be expected, therefore, manufacturing production has fluctuated directly with the changes in the value of wheat production, and will continue to do so. The prospect, therefore, for manufacturing development is not good.

Apart from agriculture, the second basic industry of Saskatchewan is the distribution of goods and services. Distribution, of course, is obviously entirely dependent on income from production. The producers are not able to buy—supporting in the chain the transportation industries, the wholesalers and the retailers—unless they have the wherewithal with which to pay for their purchases.

This is clearly indicated in lines supplying agricultural requirements directly, such as the implement business. For the seven years 1924-30 in which the average value of wheat production in Saskatchewan was \$207,000,000 tractor sales in the province averaged 4,683 units per year. Comparative figures for the last seven years, 1931-37, were \$69,000,000 of production and 747 tractor units. In other words a drop of 67 per cent in production and 84 per cent in tractor sales.

The effect of low revenues is reliably reflected in retail and wholesale trade. The former fell 45 per cent between 1930-1933, a decline greater than in any other province and the upswing since 1934 has been less satisfactory than in any other part of the Dominion. Not only have retail sales decreased drastically during the period of low production value, but in almost every instance the variations in production value for each year have been reflected in corresponding variations in retail sales for the same years. This has been the case notwithstanding the issuance of direct relief which has no doubt influenced sales tremendously. The relief factor is generally conceded to have kept food and grocery lines up to a point which has been very favorable in comparison with trends throughout the Dominion. From a study of price trends it seems clear, too, that the decrease in dollar volume of sales has been much greater than the decline in price level.

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Though less marked, statistics indicate similar relationships between value of wheat production and sale of gasoline and motor vehicle registrations. Indeed that relationship exists wherever business indices are available. It is only logical to assume that the same situation prevails where data are lacking.

As far as the local or Regina area is concerned no field has the disastrous influence of low production values been so marked as in the construction and related businesses. From 1924-30 Regina building permits totalled over 29 millions of dollars and in the succeeding seven years of low production value, the permits were but four millions, notwithstanding the fact that there was a considerable increase in population and a dearth of desirable houses.

In almost every detail the local picture is a copy of the provincial one. If anything it is better because of the monies expended on relief for the city and district served. For instance bank clearings and postal revenues while reduced throughout the period of low crop values, are not reduced to the extent they would be without relief.

It is surely more than a coincidence that relief expenditures suddenly started to assume considerable importance in the municipality's financing in 1930 and in the next seven years cost well over nine millions of dollars. This was the period of low wheat values already referred to. In the previous six years of relatively high production values there was practically no such thing as a relief problem.

The benefits to business from relief are certainly not of an economically healthy character and are not comparable to the benefits accruing from conditions under which relief is unnecessary. On the contrary relief business is fundamentally unsound and its advantages are offset by increased cost of doing business in the community, in the loss of services, and in the depreciation of the community's physical assets.

Of similar indirect detrimental effect on business locally is the influence of low production values on the city's sinking fund which has substantial investments in rural telephone, rural municipality, and school district debentures. Up to 1930 there was never any question as to the soundness of these investments. Since that year and during the period of low crop values considerable arrears have accumulated in the payments from each group mentioned.

The situation may be very briefly summarized as follows: The economy of Saskatchewan is fundamentally agricultural. Business is mainly distributive in character. Wheat being the predominant factor in that agriculture, its value affects business both directly and indirectly. The direct effect is evidenced in statistics covering volume of business. Available data indicate that low production value is accompanied by reduced sales or depressed conditions. High production value results in increased sales or prosperous conditions. The indirect effect consists of the burdens on business in carrying relief costs and defaulting public and private obligations.

In conclusion, I can only add, that the Regina Board of Trade is keenly aware of the seriousness of this question. It considers this conference as being most opportune and is grateful for the opportunity to make this statement to it.

THE CHAIRMAN: I wish to thank Mr. Christopherson and the Regina Board of Trade for their presentation to this conference.

There is now a bit of a change to take place in the type of discussion, and we will hear this morning from three men who have for many years been directing a soil survey in the three western provinces of Manitoba, Saskatchewan and Alberta. We have a wheat problem in western Canada, and some people have suggested that we switch our type of farming from largely wheat growing to something else. If that is to be done we need to know something about the soil of this western country. I want to pay a word of tribute to the splendid work which has been done by the universities of western Canada, with the assistance of the Departments of Agriculture, including the Dominion Department of Agriculture, over the last 10 or 15 years.

A few years ago, before most of you were born, it was my privilege to spend a year at the University of Illinois. Across the front of one of their large buildings,

in letters of stone, a foot and a half high, is to be found this inscription: "The wealth of Illinois is in her soil, and on its intelligent development depends her ultimate success." If that could be said about the great Industrial State of Illinois, how much more true is it of the three Prairie provinces of western Canada?

Professor J. H. Ellis, of the Soils Department of the Manitoba University, is going to present two papers—the first paper is entitled "Western Agricultural Zones and their Adaptability to Various Types of Farming." This paper is a joint contribution from the heads of the Soils Departments of the three western universities. Professor Ellis will then present a paper entitled, "The General Utilization of Land in Manitoba and the Agricultural Use Made of the Cultivated Lands." Professor Ellis.

WESTERN AGRICULTURAL ZONES AND THEIR ADAPTABILITY TO VARIOUS TYPES OF FARMING

by

J. H. Ellis, Professor of Soils, University of Manitoba,

J. Mitchell, Professor of Soils, University of Saskatchewan,

F. A. Wyatt, Professor of Soils, University of Alberta.

PROFESSOR J. H. ELLIS: MR. PREMIER, LADIES AND GENTLEMEN: The subject that we have been asked to bring to your attention this morning is "The Western Agricultural Zones," and the type of farming which is followed or should be followed. That involves two subjects, (1) the agricultural zones, and (2) their utilization.

The agricultural zones of western Canada are very closely related to the climatic regions, the vegetation belts, and the major soil zones which occur within the area.

AREA INVOLVED

The area here referred to as western Canada consists of the provinces of Manitoba, Saskatchewan and Alberta. These provinces extend from the 49th to the 60th parallel of Latitude. Across its northern boundary (60° Latitude), the area extends from the 120th meridian of Longitude in the west to Hudson Bay in the east. Across its southern boundary it extends from the Rocky Mountains in the west, to the Lake of the Woods in the east (Long. $95^{\circ}, 10'$). This area comprises approximately 485,642,960 acres, which is approximately one-fifth of the area of Canada, or approximately more than one-quarter of the area of continental United States. The proportion of this acreage in each of the three provinces is shown in Table No. 1.

TABLE No. 1

Acreage of Land and Water in Manitoba, Saskatchewan and Alberta.

Province	Acres of Land	Acres of Water	Total
Manitoba	143,857,280	17,315,200	161,172,480
Saskatchewan	155,764,480	5,323,520	161,088,000
Alberta	159,232,000	4,150,480	163,382,480
Totals	458,853,760	26,789,200	485,642,960

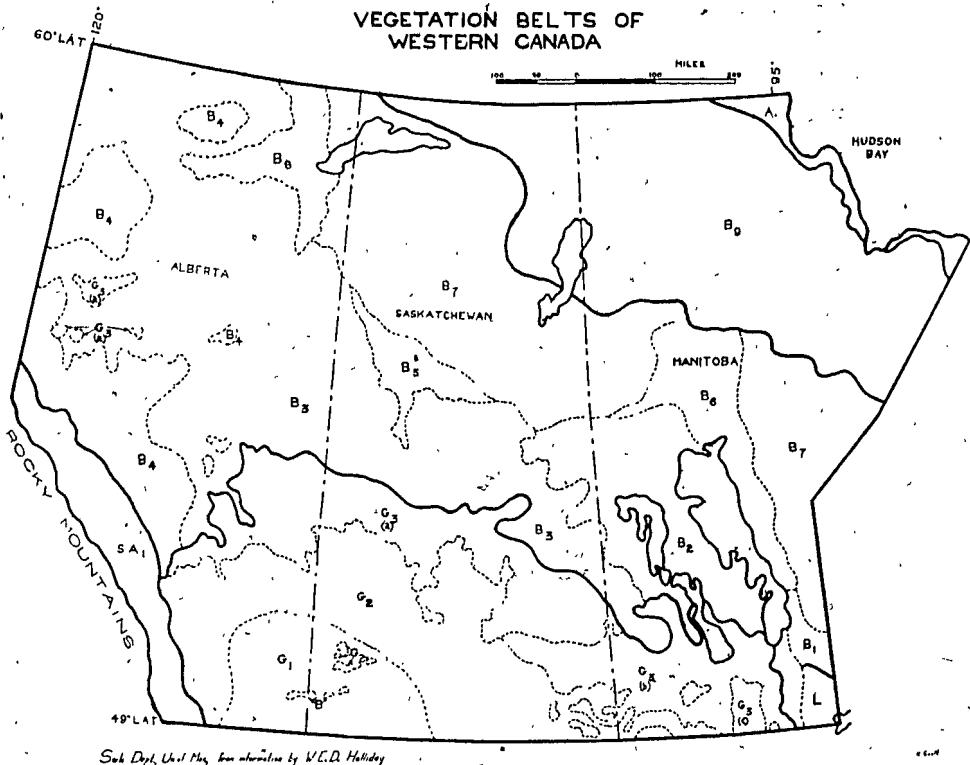
Physiographically, the area divides into three steppes. The first or eastern steppe is characterized by level or flat topography. It extends from the Laurentian Plateau to the Manitoba escarpment and has a much lower altitude than the second and third steppe.

The second or central steppe is characterized by undulating to rolling topography (chiefly till plain), with some smooth areas of lacustrine sediments. This steppe extends from the Manitoba escarpment in Manitoba to the Missouri Coteau in Saskatchewan, and has an average altitude of approximately 1000 feet higher than the first steppe.

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The third or western steppe extends from the Missouri Coteau in Saskatchewan to the foot-hills of the Rockies in western Alberta. This steppe is characterized by more mature relief and has an average altitude of approximately 1,000 feet higher than the second steppe.

Figure 1



State Dept. Used May, from information by V.C.D. Holiday

GRASSLAND REGION:

- G₁ Short grass plains.
- G₂ Mixed grassland.
- G₃(a) Tall prairie grassland and aspen grove.
- G₃(b) Tall prairie grassland and oak-aspen grove.
- G₃(c) Tall grassland and aspen grove.

FOREST REGION:

- Lakes-Forest:
 - L. Rainy River section.

Boreal Forest:

- B₁ English River section.
- B₂ Manitoba lowlands section.
- B₃ Mixedwoods section.
- B₄ Foothills section.
- B₅ Hyper-Churchill section.
- B₆ Nelson River section.
- B₇ Northern coniferous section.
- B₈ Mackenzie lowlands section.
- B₉ Northern transition section.

Sub-Alpine:

- S.A. East slope Rocky Mountains section.

TUNDRA REGION:

Arctic Prairie:

- A. Arctic prairie or tundra.

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VEGETATION BELTS

Throughout the ages, the prevailing climate in each portion of the area determined the native vegetation that was produced, so that different types of vegetation became established as regional vegetation belts, each of which reflect the respective regional climates. These belts parallel each other, and run in a general northwesterly to southeasterly direction. The vegetation belts may be enumerated in sequence from southwest to northeast as follows:

1. The short grass plains, located in southeastern Alberta and southwestern Saskatchewan.
2. The mixed short and tall grass plains, extending as a belt to the north and east of the short grass plains.
3. The tall prairie grass and aspen grove belt, extending to the north and east of the mixed grasslands. (This belt is sometimes referred to as the "Park Belt" in its northern portion.)
4. The forest belt, which includes the various sections of the "Boreal Forest" extending as a broad belt across the three provinces north of the prairies; a small area of "Lakes-Forest" in southeastern Manitoba to the east of the prairie region; and a belt of "Boreal Forest and Tundra Transition" in the northeastern portion of Saskatchewan and northern Manitoba.
5. The "Arctic Prairies" or "Tundra," which extends as a narrow fringe in northeastern Manitoba along the west shore of Hudson Bay.

The location of these vegetation belts is shown in Figure No. 1.

The types of vegetation found in the respective vegetation belts are nature's evidence of the climate which has prevailed over long periods of time. Because the forms of native vegetation reflect the climate responsible for their establishment, they constitute an excellent indication of the climatic environment which must be taken into consideration in planning the agricultural use of the respective areas.

CLIMATIC REGIONS

The meteorological data obtained over the three provinces is somewhat meagre, especially in the central and northern portions, and such data cover only a relatively short period of years. However, if the available climatic data is calculated to the respective "Precipitation Effectivity" and "Temperature Efficiency" indices, the somewhat scanty meteorological data show a very close relationship to the various climates indicated by the native vegetation.

The "Temperature Efficiency" index isopleth of 32, crosses the three provinces from west to east as shown in Figure No. 2. North of this line temperature is the chief controlling climatic factor. Immediately north of this line the provinces are covered with an extensive belt of Boreal Forest. To the northeast as the "Temperature Efficiency" isopleth of 24 is reached, the tree growth becomes sparse and stunted, and finally the trees give place to the Arctic prairie or tundra when the "Temperature Efficiency" isopleth of 16 is reached.

South of the "Temperature Efficiency" index isopleth of 32, moisture is the chief controlling climatic factor. Short grass species occur where the "Precipitation Effectivity" index is around 32 or less. Mixed short and tall grass species occur where the "Precipitation Effectivity" index is between 32 and 40. Groves of aspen and oak in association with tall prairie grassland vegetation are found where the "Precipitation Effectivity" index is between 40 and 48, but aspen and tall prairie grassland vegetation also occurs with a somewhat lower "Precipitation Effectivity" where the "Temperature Efficiency" is slightly lower than 32. Where the "Precipitation Effectivity" index is over 48 in the eastern part of Manitoba, the grasslands give place to forest, but the "Temperature Efficiency" index of 32 is again the critical point, because while "Boreal Forest" prevail in the country to the north of the "Temperature Efficiency" isopleth of 32, the forest to the south contains tree species which are characteristic of the "Lakes-Forest."

Therefore, the evidence of the limited meteorological data, and the long time evidence from native vegetation, shows that a critical line exists from a point near Edmonton to the south end of Lake Winnipeg. North of this line is a broad belt

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Figure 2.

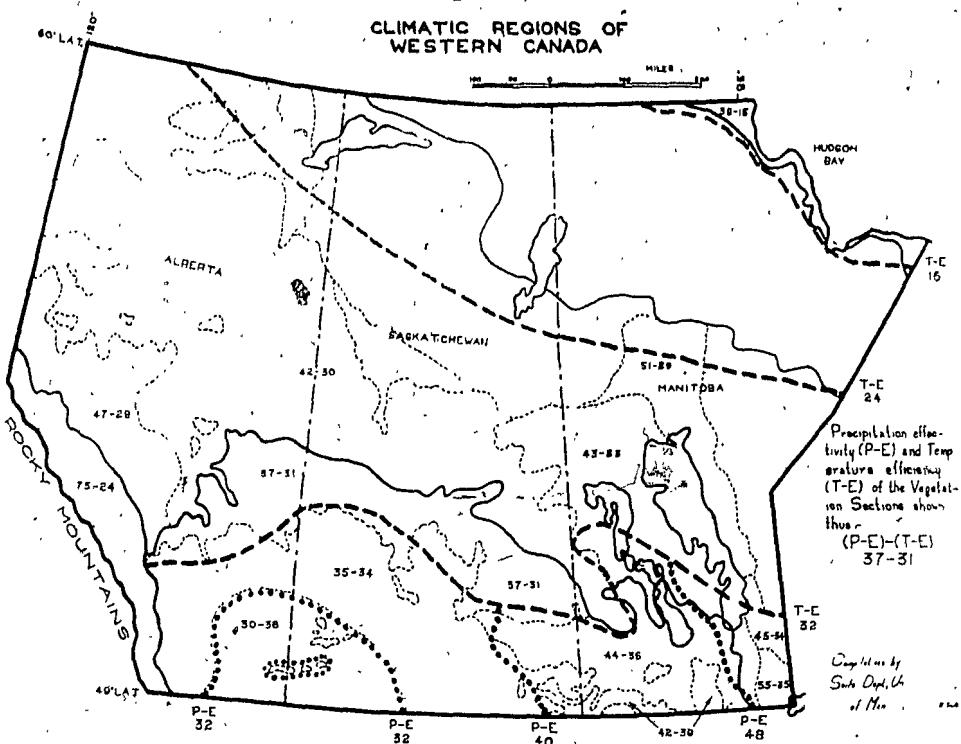


Chart showing the mean "Precipitation Effectivity" and the mean "Temperature Efficiency" indices in the different sections of the vegetation belts; and the generalized "Precipitation Effectivity" and the "Temperature Efficiency" isopleths

where the climate is favourable for the growing of timber. From this critical line northeast to Hudson Bay, the conditions gradually become less favourable for timber growth, due to lower "Temperature Efficiency," until at last the forest disappears as the shores of Hudson Bay are reached.

South of this critical line, from Edmonton to the lower end of Lake Winnipeg, is a grassland region with a narrow zone of stress where the grassland meets the timber. In the grassland region the humidity increases from west to east. Dry conditions have prevailed for many centuries in the short grass plains east of the Alberta foothills. This gives place to a belt of somewhat more moist, but nevertheless semi-arid grassland to the northward and to the eastward of the short grass plains. A more humid type of grassland with islands of tree invasion, occurs in the northern and eastern portion of the grassland region. Still further to the eastward, due to the humidity, the grassland gives place to forest at about Longitude 96 degrees.

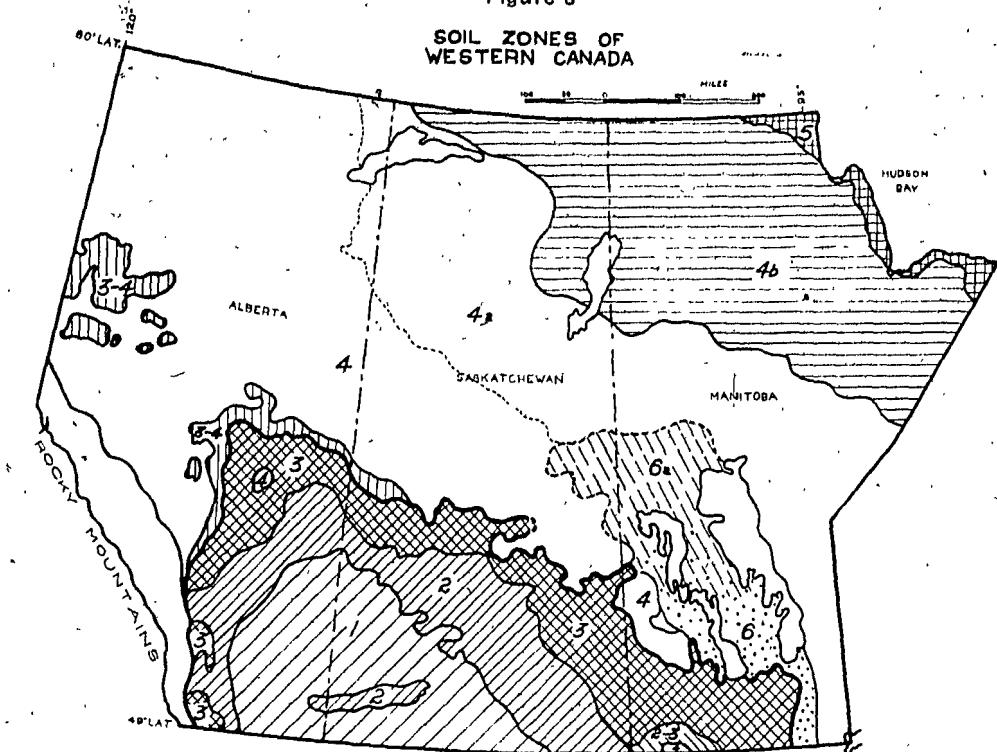
SOIL ZONES

The normal or well drained soils in any region reflect the climate and vegetation under which they were produced. In western Canada, the climate through the ages determined the native vegetation which was produced. The native vegetation in turn determined the type of organic matter deposited within, or on the soil. The climate also determined the rate and degree of mineral weathering, the rate of production and decomposition of the organic matter, and the extent to which the products of weathering were accumulated in, or removed from the soil. Thus, as may be expected, the typical soils of the different soil zones have characteristics which reflect the conditions under which they were produced, and which indicate the agricultural use to which they are most suited. Because the climate and vegetation together influence the soil types which have developed, and because the

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Figure 3

SOIL ZONES OF
WESTERN CANADA



From information by Supt. Dept., Univ. of Man. Soil Atlas.

ZONAL SOILS:

1. The light brown steppe soil zone.
2. The brown to dark brown steppe soil zone.
- 2-3. The dark brown-black earth transition soils.
3. The black earth soil zone.
- 3-4. The grey-black transition soils.
4. The grey wooded (Podzolic) soil zone.
- 4a. Rock, swamp and podzol soils of the Laurentian Shield.
- 4b. Northern transition.
5. Tundra soil zone.

INTRA-ZONAL SOILS:

6. Rendzina, or high lime black soils.
- 6a. Degraded rendzina soils.

climate and native vegetation occur in geographic belts, the major soil types of western Canada also occur in belts.

The major soil zones of western Canada* which occur as geographical belts may be enumerated as:

1. The light brown steppe soil zone,
2. The brown to dark brown steppe soil zone,
3. The black earth soil zone,
4. The grey wooded soil zone, and
5. The tundra soil zone.

The location of these zones is shown in Figure No. 3.

*The soil zones of the Prairie region in Saskatchewan are usually designated locally as: 1, the brown soil zone; 2, the dark brown soil zone; and 3, the black or dark park soil zone.

In this paper the terms 1, light brown; 2, dark brown; and 3, black earth soil zones, respectively, are considered as more descriptive and are so used.

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Between each of the typical soil zones there are belts of transitional soils; and within each zone, in addition to the regional soils, there are many variations due to texture, as well as local or intra-zonal soil areas due to difference in altitude, topography, drainage, parent material, etc.

A.—SOIL ZONES OF THE GRASSLAND REGION:

The soil zones of the grassland region include: (1) the light brown steppe, (2) the brown to dark brown steppe, and (3) the black earth soil zones. The names given to these three respective soil zones are descriptive of the characteristic color of the surface soil in each zone. The color of the surface soils is correlated with the organic matter contained. (The significance of this is apparent if it is noted that the more moisture there is in the grassland region, the more grass and herbaceous vegetation is produced. The more vegetation there is produced, the darker is the color of the soil and the higher the organic content). This may be expressed another way by stating, that the lighter the grassland soils are in color, the drier has been the soil climate that produced them.

In addition to the quantity and color of the organic matter, a second characteristic of the grassland soils is important, namely, the accumulation of lime carbonate in the soil profile. In the soils of humid regions, the lime which is weathered in the soil tends to leach out in the water which percolates through the soil profile. In arid and semi-arid grassland soils, the lime which is weathered from the soil minerals is not strongly leached out, because of the limited amount of water which enters such soils. In soils with a semi-arid climate, the lime (or calcium) accumulates in the soil profile as a layer of lime carbonate. This layer of lime carbonate occurs just below that portion of the soil which contains the organic matter. The higher in the profile of regional soils that the lime carbonate occurs, the drier has the soil climate been which produced it. The lower down in the soil profile that the lime carbonate is found, the more humid has been the prevailing climate. Thus, the color of the grassland soils may be used to indicate the relative amount of vegetation usually produced, and the lime carbonate layer may be used to indicate the depth to which moisture usually penetrates.

(1)—THE LIGHT BROWN STEPPE ZONE:

The light brown steppe soils were developed under short grass vegetation, where, because of low moisture availability, growth is usually light. The surface soils are light in color, and they are relatively lower in organic matter than the dark brown, and the black earth soils; also the lime carbonate is higher in the profile. These soils are usually highly fertile, but because of limited moisture, the light and medium textured soils are more suited to range use than to arable culture. The relatively limited amount of plant growth produced annually, necessitates a large acreage per unit of livestock. The heavier soils may be used for wheat production, but drought hazard is serious and erratic yields with periods of acute hardship may be expected; only a limited percentage of these soils is suited to the production of cultivated crops.

In years of favourable (or regionally higher) moisture, remarkably high yields may be obtained, but the general dry condition, and the occurrence of frequent and severe droughts, indicate very forcibly the fact that the light brown soils in general, are not suited for continuous arable agriculture. Where other conditions are favourable, local areas may be used for irrigation farming.

(2)—THE BROWN TO DARK BROWN STEPPE ZONE:

The brown to dark brown steppe soil zone was formed under mixed short and tall prairie grassland vegetation. The color of the surface soils is of a darker brown than that of the light brown steppe soils. The organic matter is in greater quantity and the lime layer is located somewhat lower down in the soil profile. The soil characteristics indicate that periodically moist and periodically dry conditions prevail.

Because there is not usually enough water to leach the products of weathering from the soil, these soils are remarkably fertile, and climatically, the brown soil

zone is particularly suited to the production of high protein wheat. During years with above average moisture, remarkably high yields of wheat can be obtained, but due to periodic drought, crop failures may be expected. Thus, while the land may be used for the production of cereals, under dry land agriculture, the yields may be expected to fluctuate from high to low levels. While the soils are suitable for the production of high quality wheat, the climate presents serious problems in the growing of coarse grains, cultivated grasses and legumes. Hence specialized grain growing rather than mixed farming is indicated on this soil type. In this soil region the outstanding soil problem is the combatting of drought. Hence, because there is not enough moisture to grow a crop each year, the practice of summerfallowing for moisture conservation is essential under arable dry land farming.

(3)—THE BLACK EARTH SOIL ZONE:

The black earths are produced under tall prairie grassland, with islands of aspen poplar in the depressions and in the northern portion where the grassland grades into the forest. The dark color of the soils to which they owe their name is due to the high organic matter content. The thickness of the dark coloured surface horizon is also greater than in the brown soil zones, and the lime carbonate layer is lower down in the soil profile. The black earth soils also have a more granular condition than the soils of the brown zone because the more favourable moisture to which they are subject induces greater root proliferation. The good textured soils are of high fertility. They will produce a wide range of crops with higher average yields than in the case of the brown steppe soils. An agricultural zone of grain farming has developed in this soil zone, in which, while wheat is the dominant cereal, a considerable acreage of oats and barley is also produced. Some species of grasses, clovers, alfalfa and other crops can be produced satisfactorily. A considerable amount of mixed farming is carried on in conjunction with, and supplementary to the major grain growing systems of arable land management. However, while some form of livestock farming can be conducted in conjunction with grain growing, droughts may occur occasionally, and the climate is not sufficiently moist for intensive grassland agriculture. Although at the present time the black earth zone is used dominantly as a wheat producing area, nevertheless, due to the wider range of crops that can be produced, other types of agriculture than grain growing can be developed when market facilities are available for the produce. However, because of their suitability for grain growing, and the lesser drought hazard in comparison with the brown steppe soils region, wheat will no doubt continue to play a large and major part in the arable agriculture conducted on the black earth soils.

B.—THE SOILS OF THE FOREST REGION

(4)—THE GREY WOODED SOILS

The grey wooded soils, which extend north of the grass land region, were developed under forest. Owing to the higher moisture efficiency under which these soils were developed, the products of soil weathering have been leached largely from the upper part of the soil profiles, so that the surface soils tend to be low in fertility in comparison with the soils of the grassland region. Although developed under more humid conditions than the soils of the prairies, these soils are not as humid as those of eastern Canada. In that portion of the grey wooded soils which have been studied to date, the layer of lime carbonate occurs low down in the soil profile, in contrast to the general removal of lime from the humid soils east of Lake Winnipeg. The cooler conditions, together with the low organic content of the surface soils, result in the production of wheat with a low protein content. However, if the low fertility level of the surface soils is corrected, barley, flax, oats, grasses, legumes, and roots can be grown successfully. These soils, while much inferior to the grassland soils of western Canada, are better soils than were many of the original soils of northern Europe. The arable soils of northern Europe however, have been built up through hundreds of years, under a system of intensive culture. The grey wooded soils of western Canada also can be made into good soils under careful agriculture, but in their virgin state they present fertility problems that require correction. Hence the development of these soils will be slow.

As the grey wooded soils grade northward much swamp occurs, temperature becomes a limiting factor, and as the forest tundra transition is reached, the sur-

TABLE No. 2—SHOWING RELATIONSHIP BETWEEN VEGETATION BELTS, CLIMATIC REGIONS, SOIL ZONES AND AGRICULTURAL ADAPTATION IN WESTERN CANADA

REGION	VEGETATION BELTS	CLIMATIC REGIONS			SOIL ZONES			AGRICULTURAL ADAPTATION
		Precipitation Effectivity Index P.E.	Temperature Efficiency Index T.E.	Name of Zone	Approximate content of organic matter in A Horizon or surface soil	Lime Carbonate accumulation in soil profile		
Grassland	1. Short Grass Plains	30	36	Light brown steppe	2 - 4%	High in profile	Ranching with some grain growing in favorable locations (Irrigation local)	
	2. Mixed Grassland Plains	35	34	Brown to dark brown steppe	4 - 7%	Intermediate	Wheat production (Irrigation local)	
	3. Tall Prairie Grassland and Aspen Grove	P.E. 37 and T.E. 31 to P.E. 44 and T.E. 36		Black earth and (dark park)	8 - 14%	Lower in profile	Ranching on light soils	Grain, mixed and general farming
Forest	4. Boreal Forest	(42 to 51) - (32 to 21)		Grey wooded	Low	Surface soils slightly acid to acid	Mixed and livestock farming and subsistence agriculture	
	4a. Transition	(.....) - (24 to 16)					Non-agricultural	Non-agricultural
Tundra	5. Arctic Prairie	(.....) - 16		Tundra	Peaty			

face tends to be rocky; hence it is doubtful whether any form of arable agriculture will ever take place on the Laurentian Shield in Manitoba and Saskatchewan.

A summary comparison of the coincidence and relationship between the vegetation belts, the climatic regions, the soil zones, and the agricultural land use indicated, is given in tabular form as follows: See Table No. 2.

SUMMARY

In summarizing the types of agriculture indicated by the characteristics expressed in the soils of the different zones, it may be stated that the light brown steppe soils are mostly suited to range, (with local exceptions) the brown to dark brown steppe soils to extensive grain growing; the black earth soils to grain growing and mixed farming; and the grey wooded soils to mixed and livestock farming, and to subsistence types of agriculture.

In general, the agriculture which has developed in western Canada since settlement shows a tendency to a zonation that corresponds to the vegetation belts, the climatic regions, and the soil zones. Agriculture has developed most extensively on the brown to dark brown soils, the black earths and the black earths which are under woodland invasion. In these soil zones there is a remarkable correlation between the soil characteristics and the type of farming which is being followed.

Owing to the initial high fertility level, the effect that the type of farming has had on the soils of western Canada should be mentioned. The better textured soils of the different zones in the grassland region may be expected to remain productive for many years. The lighter and inferior textured soils, however, are reacting more rapidly to the continuous effect of grain growing. Major problems such as soil drifting and reduction of fertility have developed, and may be expected to become more acute and widespread with time. Hence, while the types of farming adopted in the various soil zones are largely justified because of their suitability to environment, a vigorous policy of soil conservation must be undertaken if continuity of production is to be insured.

It must be recognized, however, that any soil improvement practices that are undertaken must meet the limitations imposed by climate, and that such practices must be both practical and economically sound. Any attempt to establish humid land types of agriculture on the plains region of western Canada is foredoomed to failure. More diversity of agriculture in the black earth and grey wooded soils will follow if, and when, market facilities are available.

THE GENERAL UTILIZATION OF LAND IN MANITOBA AND THE AGRICULTURAL USE MADE OF THE CULTIVATED LANDS

by

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INTRODUCTION

The purpose of this paper is to show the use which is being made of the soils of Manitoba at the present time, and to point out the present and past use made of the lands under cultivation. A general outline of the vegetation belts, the climatic regions, and the major soil zones of Manitoba has been included in the paper entitled, "Western Agricultural Zones and their Adaptability to Various Types of Farming," by Ellis, Mitchell and Wyatt. A more detailed description of the vegetation, the climate, and soils of Manitoba is given in the publication entitled: "The Soils of Manitoba."* If further information about the soils of Manitoba is required it may be obtained by referring to the above references.

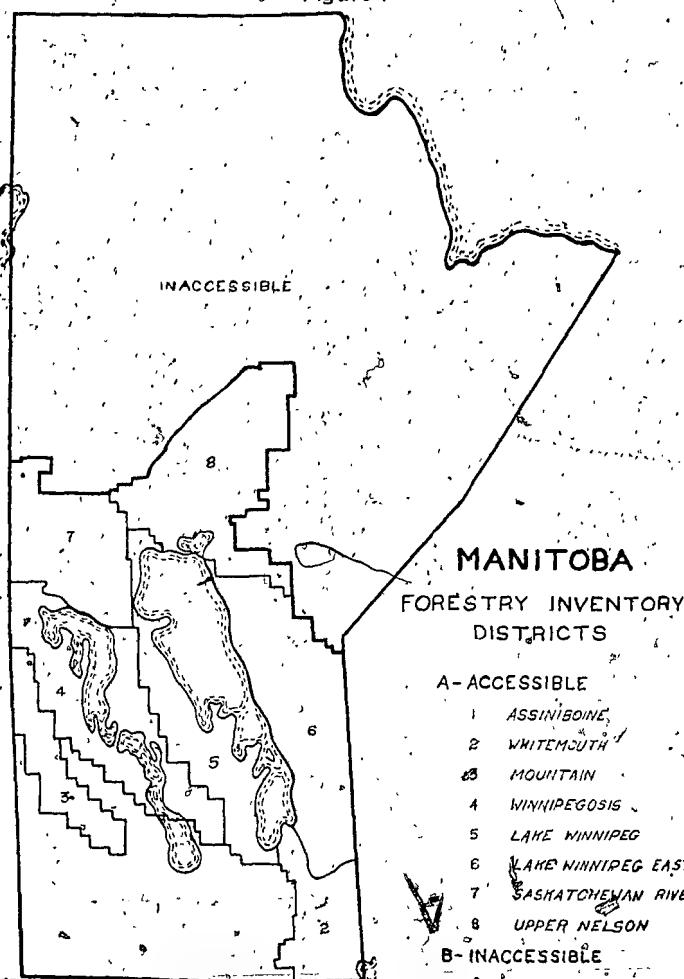
*"The Soils of Manitoba," Manitoba Economic Survey Report No. 14, by J. H. Ellis, Soils Department, University of Manitoba.

The total area of the province of Manitoba is 161,172,480 acres. In the Canada Year Book, 1927-1928, the land area of the province is listed as approximately 148 million acres. A more recent revision of the land and water areas, however, shows that the land area of the province is approximately 143,857,280 acres, and the remainder, 17,315,200 acres, is water. By far the larger portion of the province is still held as Crown lands, and approximately only one-seventh of the provincial land area is included in the organized municipal districts.

DISPOSAL OF LANDS

The disposal of the lands in the province is dealt with in an excellent report entitled, "The Forests of Manitoba."* Use is here made of data submitted by Stevenson in this report to indicate the location and use of the lands which have been alienated from the Crown, and which, having passed into private ownership, are associated with agricultural development. From the standpoint of the disposal and utilization, the province may be divided into two large divisions: (1) The so-called "accessible" portion, which comprises 105,130 square miles in the central and southern portion of the province, and (2) the so-called "inaccessible" portion, which contains 146,702 square miles in the northern part of the province. The location of these is shown in Figure No. 1.

Figure 1



*"The Forests of Manitoba," Manitoba Economic Survey Report No. 8, by H. I. Stevenson, Provincial Forester, Department of Mines and Natural Resources.

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The "accessible" portion thus presents 41.7 per cent, and the "inaccessible" portion 58.3 per cent of the total area.

The division classed as "accessible" is subdivided by Mr. Stevenson into eight inventory districts. The general disposal of the land in these eight districts is indicated by the land class tenure as shown in Table No. 1.

TABLE No. 1

DISTRIBUTION OF ACCESSIBLE LAND AREA BY CLASSES OF TENURE

(All Areas in Square Miles.)

Inventory District	Class of Tenure					
	Timber License	Pulp Lease	Forest Reserve	Vacant Crown	Alienated	Total
Assiniboine			324	1,566	24,400	26,290
Whitemouth	175		1,076	2,162	2,115	5,528
Lake Winnipeg East	180	2,290		10,857	75	13,402
Lake Winnipeg	295	280		5,810	1,695	8,080
Winnipegosis	140	50		6,140	2,420	8,750
Mountain	215		3,050	510	2,535	6,310
Saskatchewan River	185			5,940	125	6,250
Upper Nelson				10,705	55	10,760
TOTALS	190	2,620	4,450	43,690	33,420	85,370

From the data in Table No. 1, the land acreage in Manitoba which is under private control may be calculated as shown in Table No. 2.

TABLE No. 2

ACREAGE OF LAND ALIENATED FROM THE CROWN

Inventory District	Area in Square Miles	Total Acreage	Percentage of District Alienated from the Crown
Assiniboine	24,400	15,616,000	92.81%
Mountain	2,535	1,622,400	40.2%
Winnipegosis	2,420	1,548,800	27.6%
Whitemouth	2,115	1,353,680	38.2%
Lake Winnipeg	1,695	1,084,800	21.0%
Saskatchewan River	125	80,000	2.0%
Lake Winnipeg East	75	48,000	0.6%
Upper Nelson	55	35,200	0.5%
TOTALS	33,420	21,388,800	

A comparison of the figures in Tables No. 1 and No. 2, with the map shown as Figure No. 1, shows that the land in Manitoba which has been alienated from the Crown lies south and west of Lake Winnipeg. The land east and north of Lake Winnipeg is still held as Crown lands, but it should be noted also that there is a large acreage of Crown lands scattered throughout the area west and south of Lake Winnipeg.

AGRICULTURALLY USED LANDS

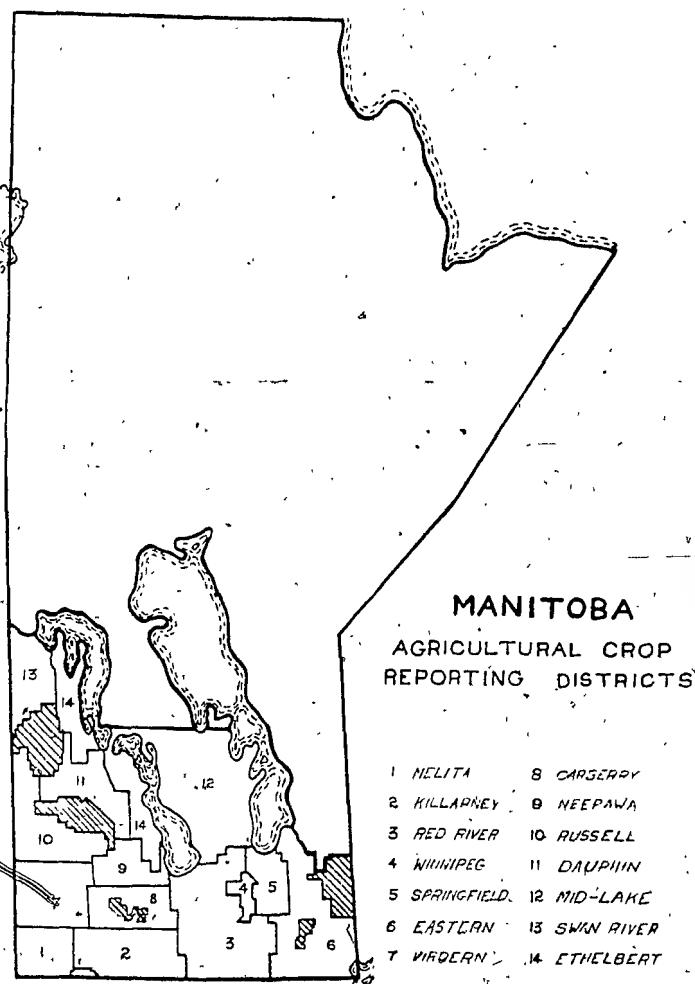
The area in Manitoba which is organized into municipal units is located in the southern and southwestern part of the province. The agricultural development that has taken place in Manitoba is found in this portion of the province.

For agricultural statistical purposes the province of Manitoba is classified into fourteen Crop Reporting Districts. The data from the Crop Reporting Districts may be used to give a picture of the agricultural utilization of the land, and, by calculating the data for the five years (1934-1938), to average annual figures, the slight annual variation may be smoothed out and a fairly accurate picture obtained.

The designations of the Crop Reporting Districts are as follows: No. 1, Melita; No. 2, Killarney; No. 3, Red River; No. 4, Winnipeg; No. 5, Springfield; No. 6, Eastern; No. 7, Virden; No. 8, Carberry; No. 9, Neepawa; No. 10, Russell; No. 11, Dauphin; No. 12, Mid-Lake; No. 13, Swan River; and No. 14, West Shore.

The location of the Crop Reporting Districts is shown in Figure No. 2.

Figure 2



The estimated acreage of land in each crop district, the amount of land in each district listed as farm land, the percentage of land in each district listed as farm land, the number of farms, the average acreage and percentage of the farm land cultivated and not cultivated, is shown in Table No. 3.

TABLE No. 3—ACREAGE OF LAND IN CROP REPORTING DISTRICTS, AND AMOUNT OF LAND IN FARMS,
CULTIVATED AND NOT CULTIVATED

Crop Reporting Districts	Estimated Area in Crop Districts	Acreage Listed as Farm Land	Per Cent of Land in Farms	No. of Farms	(5) Land Listed as Farms (Five-year Average (1934-38))		Cultivated	Acres Not Cultivated	Not Cultivated
					(1)	(2)	(3)	(4)	(5)
1. Melita	1,098,200	895,660	81.5%	1,900	509,068	386,592	56.8	43.2	
2. Killarney	1,923,121	1,830,796	95.2%	4,580	1,202,826	627,970	65.7	34.3	
3. Red River	3,649,944	3,121,867	85.5%	10,940	2,083,918	1,037,949	66.7	33.3	
4. Winnipeg	194,945	162,817	83.5%	1,240	119,396	43,421	73.3	26.7	
5. Springfield	955,153	632,374	66.2%	4,370	330,432	301,942	52.2	47.8	
6. Eastern	2,972,608	573,879	19.3%	3,670	312,818	441,061	23.1	76.9	
7. Virden	2,125,775	1,868,697	87.9%	4,340	1,044,070	834,627	55.9	44.1	
8. Carberry	1,440,960	1,200,835	83.1%	3,260	777,030	423,805	64.7	35.3	
9. Neepawa	1,135,373	822,450	72.4%	2,740	474,130	348,320	57.6	42.4	
10. Russell	2,013,441	1,629,788	80.9%	5,240	559,828	1,069,960	34.3	65.7	
11. Dauphin	1,304,960	895,392	68.6%	3,640	386,406	508,986	43.1	56.9	
12. Mid-Lake	3,927,855	757,439	19.3%	4,640	132,000	625,439	17.4	82.6	
13. Swan River	989,760	428,973	43.3%	2,000	150,512	278,461	35.1	64.9	
14. West Shore	2,701,878	381,119	14.1%	2,140	89,960	291,159	23.6	76.4	
TOTALS	26,433,973	15,202,086	57.5%	54,700 +3,704 57,744	7,992,394	7,209,692	52.6	47.4	

(1) Total area calculated from Provincial Map of Crop Reporting Districts.

(2) Total land in farms calculated from 1936 Dominion Census data.

(3) Per cent of land in each district listed as farm land.

(4) Figures taken from Crop Reporting Bulletin 116 (1937) which gives number of farmers in Crop Reporting District operating significantly. This leaves a balance of 3,074 individuals classed as farmers whose farming operations are considered relatively insignificant.

(5) Manitoba Crop Reporting Bulletins.

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The figures in Table No. 3, show that the farm lands in Manitoba constitute 15,202,086 acres. Hence if the total land area of the province is listed as 143,857,280 acres, it is apparent that the land at present held as farms in Manitoba is only 10.5 per cent of the total land area. Of the land which is held as farm land, only 52.6 per cent is under the plow. Thus at the present time the cultivated land (approximately 8,000,000 acres) which is used for the production of crops in Manitoba, constitutes approximately only 5.5 per cent of the total land area. This is less than one-half the water area of the province.

THE USE OF THE CULTIVATED LANDS

The present use made of the cultivated agricultural lands in Manitoba has been summarized by Crop Reporting Districts. The crops produced on the cultivated lands have been classified for this study into the following classes:

- (a) Cereals, which includes wheat, oats, barley, flax, fall rye and spring rye,
- (b) Fallow,
- (c) Intertilled crops, which includes corn, potatoes, roots, sunflowers, and .
- (d) Grasses and legumes, which includes timothy, brome, rye grass, sweet clover, other clovers, and alfalfa.

The five year average acreage of the specific crops listed by Crop Reporting Districts for this period are given in Tables No. 4, 5, 6, and 7. The five year average percentage of the cultivated land occupied by the specific crops and fallow in each of the Crop Reporting Districts is given in Table No. 8. A summary of the percentages of the various classes of crops for the five year average is given in Table No. 9.

TABLE No. 4

AVERAGE ACREAGE OF CEREAL CROPS IN MANITOBA, (1934-1938)

Figures give the five-year average acreage of each
of the cereal crops by Crop Reporting Districts.

No. of District	Wheat	Oats	Barley	Flax	Fall Rye	Spring Rye	Total
1	251,064	70,986	47,360	1,558	10,508	246	381,722
2	523,088	170,034	184,992	2,920	12,820	512	894,366
3	763,708	303,514	378,636	15,976	44,590	1,210	1,507,634
4	43,220	19,312	20,048	1,772	778		85,130
5	74,598	64,330	74,126	4,358	8,320	816	226,548
6	17,776	37,018	15,956	998	5,012	144	76,904
7	352,698	205,506	140,474	4,032	8,506	892	712,108
8	269,494	137,018	114,368	2,684	10,406	1,996	535,966
9	119,822	97,876	88,648	6,070	1,152	1,154	314,722
10	141,282	153,582	93,610	370	1,836	1,982	392,662
11	113,364	79,608	46,132	1,056	2,138	3,794	246,292
12	25,080	40,312	21,194	354	1,006	198	88,144
13	27,860	38,640	40,752	60	662	992	108,966
14	25,346	23,264	9,304	172	1,426	2,424	61,936
TOTAL	2,748,400	1,441,000	1,277,600	42,380	109,160	16,360	5,635,100

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TABLE No. 5

**AVERAGE ACREAGE OF INTERTILLED CROPS AND FALLOW
(1934-1938)**

Figures give the five-year average acreage of each of the intertilled crops and fallow by Crop Reporting Districts.

District No.	Potatoes	Roots	Corn	Sun-flowers	Total	Fallow	Total Fallow and Intertilled
1	738	36	6,270	28	7,072	106,366	113,438
2	1,990	252	5,014	152	7,408	261,252	268,660
3	6,158	1,122	30,042	320	37,642	390,038	427,680
4	2,770	572	1,940	30	5,312	15,436	20,748
5	7,300	842	2,058	130	10,330	50,716	61,046
6	2,522	448	612	14	3,596	12,378	15,974
7	1,738	228	7,452		9,418	283,998	293,416
8	1,752	210	6,294	132	8,388	190,528	198,916
9	1,182	150	1,262	58	2,652	120,316	122,968
10	2,048	328	302	206	2,884	152,304	155,188
11	1,672	344	324	148	2,488	102,744	105,232
12	2,534	556	166	118	3,374	22,464	25,838
13	856	190	242	52	1,340	24,496	25,836
14	860	190	82	48	1,180	21,394	22,574
TOTAL	34,120	5,468	62,060	1,436	103,084	1,754,430	1,857,514

TABLE No. 6

**AVERAGE ACREAGE OF GRASSES AND LEGUMES IN MANITOBA
(1934-1938)**

Figures give the five-year average acreage of each of the grasses and legumes by Crop Reporting Districts.

District No.	Timothy	Brome	Rye Grass	Sweet Clover	Other Clover	Alfalfa	Total
1	18	3,362	214	9,962	146	206	13,908
2	1,156	12,408	458	24,336	638	804	39,800
3	4,038	28,628	2,290	105,156	2,352	6,140	148,604
4	988	1,588	268	9,502	184	988	13,518
5	8,672	6,506	602	22,134	1,186	3,738	42,838
6	23,272	1,400	856	9,020	2,306	3,086	39,940
7	546	5,120	1,108	29,472	942	1,358	38,546
8	1,274	10,318	814	27,214	830	1,698	42,148
9	666	6,350	196	27,296	428	1,504	36,440
10	1,426	3,124	560	5,164	326	1,378	11,978
11	4,432	3,558	302	23,694	706	2,390	35,082
12	5,420	2,462	342	3,870	394	5,530	18,018
13	6,454	1,416	148	3,706	570	3,416	15,710
14	934	462	72	3,316	162	504	5,450
TOTAL	59,296	86,702	8,230	303,842	11,170	32,740	501,980

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TABLE NO. 7

SUMMARY CLASSIFICATION OF THE AVERAGE ACREAGE OF THE CLASSES OF FIELD CROPS IN MANITOBA, (1934-1938)

Figures give the five-year average acreages of each group of crops, and indicate agricultural land-use of arable land by Crop Reporting Districts.

District No.	Fallow	Intertilled Crops	Grasses and Legumes	Cereal Crops	Total
1	106,366	7,072	13,908	381,722	509,068
2	261,252	7,408	39,800	894,366	1,202,826
3	390,038	37,642	148,604	1,507,634	2,083,918
4	15,436	5,312	13,518	85,130	119,396
5	50,716	10,330	42,838	226,548	330,432
6	12,378	3,596	39,940	76,904	132,818
7	283,998	9,418	38,546	712,108	1,044,070
8	190,528	8,388	42,148	535,966	777,030
9	120,316	2,652	36,440	314,722	474,130
10	152,304	2,884	11,978	392,662	559,828
11	102,744	2,488	35,082	246,092	386,406
12	22,464	3,374	18,018	88,144	132,000
13	24,496	1,340	15,710	108,966	150,512
14	21,394	1,180	5,450	61,936	89,960
TOTAL	1,754,430	103,084	501,980	5,632,900	7,992,394

The figures in Table No. 9 (See page 182) show that of the cultivated lands in Manitoba as a whole at the present time, 70.48 per cent is used for cereal crops, 21.95 per cent is under fallow, 1.29 per cent is used for the growing of intertilled crops, and 6.28 per cent is seeded down to grasses and legumes. In other words, about 92.43 per cent of the cultivated acreage of the province is used for the production of cereal crops or as fallow preparatory for cereals, and 7.57 per cent only is used for the production of soil improvement crops (grasses and clovers) and intertilled crops.

A study of the percentage figures in Table No. 9 shows that in Districts 1, 2, 3, 7, 8, 9, 10, 11 and 14, the cultivated land is used primarily for the growing of grain. The first seven districts coincide with the soil zones which have developed under grassland or under woodland invasion of grassland. The soils in District No. 14 are Rendzina, or highlime black earths.

In Crop Reporting Districts Nos. 4, 5, 12 and 13, there is a somewhat larger percentage of soil improvement crops grown, which indicates that a somewhat more diversified type of agriculture is followed, but that the arable land is used primarily for grain production. In the case of Districts Nos. 4 and 5 this may be explained by their proximity to the City of Winnipeg. District 12 is located on Rendzina and degrading Rendzina soils, on which the type of farming is affected by the milk flow into Winnipeg and by the relatively small acreage of good arable land on many of the holdings.

District No. 6 is the only one that shows marked diversity of cropping, or where any serious attempt is made to use the arable land contributory to a diversified type of agriculture. In this district, the arable land is located in the more humid wooded region in southeastern Manitoba.

Wheat is the dominant cereal crop in Districts Nos. 1, 2, 3, 4, 7, 8, 9, 11 and 14. In District No. 5, wheat pairs with barley. Oats are the dominant cereal crop in Districts 12, 10 and 6; barley is the dominant crop in District No. 13 only. District No. 13 is located on the grey-black soils or soils which developed under woodland invasion of black earths, where the unbroken lands are under woods. Barley occupies a larger acreage than oats in Districts Nos. 13, 5, 3 and 2. During the last five years,

TABLE NO. 8—PER CENT OF TOTAL CULTIVATED LAND OCCUPIED BY THE DIFFERENT FIELD CROPS
AND SUMMER-FALLOW IN THE FOURTEEN CROP REPORTING DISTRICTS (1934-1938)
Figures give the five-year average in per cent.

District No.*	Wheat	Oats	Barley	Flax	Fall Rye	Spring Rye	Potatoes	Corn Roots	Sun-Flowers	Brome	Rye Grass	Sweet Clover	Other Clovers	Alfalfa	Fallow
1	49.32	13.94	9.30	.31	.06	.05	.14	.01	1.23	.01	.66	.04	.96	.03	20.89
2	43.49	14.14	15.38	.24	1.07	.04	.17	.02	.42	.01	1.03	.04	2.02	.05	.07
3	36.65	14.56	18.17	.77	2.14	.06	.29	.05	1.44	.02	.19	.11	.38	.11	.29
4	36.2	16.2	16.8	1.50	7.70	.21	2.30	.50	1.60	.02	.80	.10	.30	.20	18.72
5	22.58	19.47	22.43	1.32	2.52	.25	2.21	.25	.62	.04	2.62	.19	.17	.18	12.93
6	13.38	27.87	12.01	.75	3.77	.11	1.90	.34	.46	.01	17.52	.10	.79	.64	1.13
7	33.78	19.68	13.45	.39	8.81	.09	.17	.02	.71	.05	.49	.11	.82	.09	15.35
8	34.68	17.63	14.72	.35	1.34	.26	.23	.03	.81	.02	.16	.10	.33	.11	9.32
9	25.27	20.64	18.70	1.28	.24	.24	.25	.03	.27	.01	.14	.04	.50	.11	27.20
10	25.24	27.43	16.72	.07	.33	.35	.37	.06	.05	.04	.25	.15	.56	.09	24.52
11	29.34	20.60	11.94	.27	.55	.98	.43	.09	.08	.04	.15	.92	.08	.18	.32
12	19.00	30.54	16.06	.27	.76	.15	1.92	.42	.13	.09	.11	.87	.26	.30	25.38
13	18.51	25.67	27.08	.04	.44	.66	.57	.13	.16	.03	.29	.94	.10	.46	26.59
14	28.17	25.86	10.34	.19	1.59	.21	.69	.96	.21	.09	.05	1.04	.51	.08	1.13

*District No. 1, Melita
District No. 2, Killarney
District No. 3, Red River
District No. 4, Winnipeg
District No. 5, Springfield

District No. 6, Eastern
District No. 7, Virden
District No. 8, Carberry
District No. 9, Neepawa
District No. 10, Russell

District No. 11, Dauphin
District No. 12, Mid-Lake
District No. 13, Swan River
District No. 14, West Shore

MARKETS FOR WESTERN FARM PRODUCTS

TABLE No. 9
PERCENTAGE OF CULTIVATED LAND OCCUPIED BY THE VARIOUS
CLASSES OF CROPS IN MANITOBA, (1934-1938)

Figures give the five-year average in per cent of each group of crops, and indicate agricultural land-use of arable land by Crop Reporting Districts.

District No.	Utilization in per cent. of the total cultivated area					Utilization in per cent. of the total cropped land (exclusive of fallow)			
	Fallow	Inter-tilled Crops	Grasses and Legumes	Cereal Crops	Total	Inter-tilled Crops	Grasses and Legumes	Cereal Crops	Total
1	20.9	1.4	2.7	75.0	100	1.8	3.4	94.8	100
2	21.72	.62	3.31	74.35	100	.79	4.22	94.99	100
3	18.7	1.8	7.1	72.4	100	2.2	8.8	89.0	100
4	12.92	4.44	11.33	71.31	100	5.1	13.0	81.9	100
5	15.3	3.1	13.0	68.6	100	3.7	15.3	81.0	100
6	9.3	2.7	30.1	57.9	100	3.0	33.2	63.8	100
7	27.2	.9	3.7	68.2	100	1.2	5.1	93.7	100
8	24.5	1.1	5.4	69.0	100	1.4	7.2	91.4	100
9	25.38	.56	7.68	66.38	100	.75	10.3	88.95	100
10	27.21	.51	2.14	70.14	100	.71	2.94	96.35	100
11	26.6	.6	9.1	63.7	100	.9	12.4	86.7	100
12	17.0	2.6	13.6	66.8	100	3.1	16.4	80.5	100
13	16.3	9	10.4	72.4	100	1.06	12.47	86.47	100
14	23.78	1.31	6.06	68.85	100	1.72	7.95	90.33	100
Prov. Mean	21.95	1.29	6.28	70.48	100	1.65	8.05	90.30	100

fallow has constituted 25 to 30 per cent of the acreage in Districts Nos. 7, 10, 11 and 9; 20 to 25 per cent of the acreage in Districts Nos. 8, 14, 2 and 1; 15 to 20 per cent of the acreage in Districts Nos. 3, 12, 13 and 5; and less than 15 per cent in Districts Nos. 4 and 6.

Despite the relatively large percentage of the land occupied by cereals in the Crop Reporting Districts as a whole, wheat occupies only 2.7 million acres, and thus constitutes only 34.4 per cent of the land under cultivation, or only 1.9 per cent of the total land area of Manitoba. In comparison with the figures for the wheat acreage, it is noted that the oat acreage occupies 1.4 million acres and barley occupies 1.2 million acres. Fallow occupies approximately 1.7 million acres; hence the acreages of wheat, oats, barley and fallow combined, account for around 90 per cent of all the land under cultivation.

THE RELATIONSHIP OF FEED CROPS TO LIVESTOCK

In connection with the use of the cultivated land, the amount of forage crops grown in proportion to the livestock kept is of interest. The number of horses, cattle and sheep (expressed as animal units) kept on the farms in each of the Crop Reporting Districts, (on the basis of the five-year average, 1934-1938), are given in Table No. 10. These figures are presented to show the number of animal units kept for which roughage and feed crops must be provided. In the same table is given also the acres of cultivated forage crops, (namely grasses and legumes), oats, corn and sunflowers, and roots which are grown to provide roughage required by these animals. The units of livestock kept per 100 acres of cultivated land in the respective districts, with the percentage of the cultivated land occupied by the various classes of crops, together with the estimated production of wild hay per 100 acres of cultivated land, are given in Table No. 11.

*One mature horse=one unit.

One cattle beast over two years=one unit.

Young horses, cattle and sheep calculated to comparable mature units.

TABLE NO. 10—AVERAGE NUMBER OF UNITS OF LIVESTOCK KEPT IN MANITOBA BY CROP REPORTING DISTRICTS, AND ACRES OF FEED CROPS PRODUCED. (FIVE-YEAR AVERAGE, 1934-1938)

District No.	Horses	Cattle	Sheep 6 Per Unit	Total Animal Units	Acres of Feed Crops Produced			
					Cultivated Forage Crops	Oats	Corn and Sunflowers	Roots
1	14,515	24,274	841	39,630	13,908	70,986	6,298	36
2	36,907	60,601	2,479	99,987	39,800	170,034	5,166	252
3	48,380	108,796	5,344	162,520	148,604	303,514	30,362	1,122
4	10,895	10,895	191	15,206	13,518	19,312	1,970	572
5	4,120	14,282	37,262	52,524	42,838	64,330	2,188	812
6	8,218	29,056	2,241	38,515	39,940	37,018	626	448
7	37,048	72,203	1,994	111,245	38,546	205,506	7,452	228
8	25,060	47,422	2,583	75,065	42,148	137,018	6,426	210
9	18,163	40,491	2,470	61,124	36,440	97,876	1,320	150
10	27,388	57,257	1,148	85,793	11,978	153,582	508	328
11	16,625	40,318	1,945	58,888	35,082	79,608	472	314
12	13,610	59,682	3,639	76,931	18,018	40,312	284	556
13	8,544	17,599	,627	26,770	15,710	38,640	294	190
14	6,066	21,972	1,003	29,041	5,450	23,264	130	190
Provincial Total	278,926	627,828	27,485	934,239	501,980	1,441,000	63,496	5,468

TABLE No. 11.—AVERAGE NUMBER OF UNITS OF LIVESTOCK KEPT PER 100 ACRES OF CULTIVATED LAND, WITH PROVISION MADE FOR FEED. (FIVE-YEAR AVERAGE, 1934-1938)

District No.	Units of Horses per 100 acres	Units of Cattle per 100 acres	Units of Sheep per 100 acres	Total Units per 100 acres	Utilization in per cent. of the total cultivated area in Manitoba				Tons Native Hay per 100 acres
					Fallow	Intertilled Crops	Grasses and Legumes	Cereal Crops	
1	2.85	4.77	.16	7.78	20.9	1.4	2.7	75.0	13.94
2	3.07	5.04	.206	8.31	21.72	.62	3.31	74.35	14.14
3	2.32	5.22	.256	7.798	18.7	1.8	7.1	72.4	14.56
4	3.45	9.12	.16	12.73	12.92	4.44	11.33	71.31	16.17
5	4.32	11.28	.30	15.895	15.3	3.1	13.0	68.6	19.47
6	6.19	21.88	1.69	29.75	9.3	2.7	30.1	57.9	27.87
7	3.55	6.92	.19	10.65	27.2	.9	3.7	62.2	18.6
8	3.22	6.10	.33	9.66	24.5	1.1	5.4	69.0	19.68
9	3.83	8.54	.52	12.89	25.38	.56	7.68	17.63	4.6
10	4.89	10.23	.20	15.32	27.21	.51	2.14	66.38	8.6
11	4.30	10.43	.50	15.24	26.6	.6	9.1	70.14	12.5
12	10.31	45.21	2.76	58.28	17.0	2.6	13.6	63.7	20.60
13	5.68	11.69	.42	17.79	16.3	.9	10.4	66.8	10.4
14	6.74	24.42	1.11	32.28	23.78	1.31	6.06	72.4	30.54
								68.85	25.86
									74.7

MARKETS FOR WESTERN FARM PRODUCTS

If the provision made for roughage is calculated by estimating the produce from the cultivated grasses, clovers, alfalfa and corn, and to this is added the estimated production of wild hay, and if three tons of roughage is considered the minimum feed requirements for one animal unit, it becomes apparent that in no district is sufficient feed grown to provide the amount of winter feed required for the stock kept. If, however, the produce of the oat acreage is added, the roughage requirement is satisfied, and it becomes apparent that dependence is being placed on the oat crop, and on cereal straw, to make up the balance of the winter feed requirements. Hence, if the oat crop fails because of grasshoppers, drought, or other damage, a shortage of feed may be expected in any district. This points to the conclusion that from the standpoint of providing roughage for winter use, (irrespective of the pasture requirements), there should be a shift in the relative acreage of the various classes of crops; so that instead of dependence being placed to such an extent on oats and cereal straw, more provision for roughage should be made by an increase in the acreages of grasses, legumes, alfalfa and corn.

The need for more and better feeds for cattle also is shown by the grades of cattle marketed from Manitoba points. The cattle marketings from Manitoba points as given in the Annual Market Review, (calculated as a yearly average for the six years from 1932 to 1937), are given in Table No. 12.

TABLE No. 12
CATTLE MARKETINGS FROM MANITOBA POINTS
Yearly Average, 1932-1937 (Six Years).

Class	Grade	Good	Poor
Butcher Steers up to 1,050 pounds	Choice and Good.....	5,871	
Butcher Steers over 1,050 pounds	Medium to Common.....	3,793	14,514
Butcher Heifers.....	Choice and Good.....	4,944	4,412
Baby Beef.....	Medium and Common.....	2,514	12,547
Butcher Cows.....	Choice and Good.....	2,557	
Total Butcher Cattle.....	Common.....	4,401	
	Good.....	21,523	13,321
	Medium and Common.....		+47,351 = 68,874
	In per cent.....	31.25%	+68.75% = 100%
Other Cattle:			
Canners and Cutters.....	Good.....	1,107	6,713
Bulls.....	Common.....	6,695	1,587
Stockers and Feeders.....	Good.....	1,586	9,755
Stocker Cows and Heifers.....	Common.....	9,388	2,315
Total Other Cattle.....			+20,370 = 29,758
	In per cent.....	31.55%	+68.45% = 100%
Total All Cattle.....		30,911	+67,721 = 98,632
	In per cent.....	31.34%	+68.66% = 100%

In this table, choice to good animals are listed as "Good"; and medium to common animals are listed as "Poor." These figures show that of the cattle marketed, 68.8 per cent are butcher cattle; and of these, only 31.25 per cent can be classed as "Good," whereas 68.75 per cent are shown to be "Poor." In other words, only one out of three butcher cattle show reasonable finish, whereas two out of three show

lack of finish. These figures when studied in comparison with the small amount of feed crops grown, give weight to the conclusion that greater provision for soil improvement crops is urgently needed to provide more and better feed and fodder.

Leaving out of consideration for the moment, the effect that grain growing and fallow has had on the soil, and the question of whether the present land-use may, or may not, be a sound permanent policy, the general conclusion which may be drawn from the available data, is that from the standpoint of maintaining the types of agriculture at present followed, there is a lack of balance between the various classes of field crops grown. More feed crops, (hence more soil improvement crops), are needed if the need for feed relief is to be eliminated. Hence there is a need for a shift in the proportion of the various crops in order to bring the acreage of the various crops in line with the present feed requirements on individual farms.

Although the crop acreage figures indicate that the arable land is used dominantly for cereal production, the numbers of animal units per 100 acres of cultivated land indicate that an appreciable amount of mixed farming or diversification is carried on. This mixed farming, however, is carried on in conjunction with, and supplementary to, grain growing, without sufficient provision being made in the arable land management programme for the adequate support of the livestock.

TRENDS IN ARABLE LAND USE IN MANITOBA

The foregoing portion of this paper has dealt with the present use that is being made of the arable lands of Manitoba. In connection with the present world surplus of grain production, and the relationship of Manitoba's grain acreage to this surplus, a brief review of the arable land use in Manitoba, from 1883 to 1938, is of interest.

A chart showing the provincial acreages of the different classes of farm crops by years is submitted as Figure No. 3. In this chart the crops grown have been classed in three groups, namely: (1) Cereal crops, (2) Fallow and Intertilled crops, and (3) Grasses and Legumes. This chart clearly indicates that from 1883 to 1915 there was a period of acreage expansion in Manitoba. From 1915 to 1938 the total cereal crop acreage fluctuated around a common level, with the peak point of production in 1921. It is obvious from this chart that no appreciable expansion of acreage has occurred in Manitoba for some twenty years, and that for the last 20 years this province has not been responsible for adding to the world's surplus of grain through the seeding of additional acres to cereal crops.

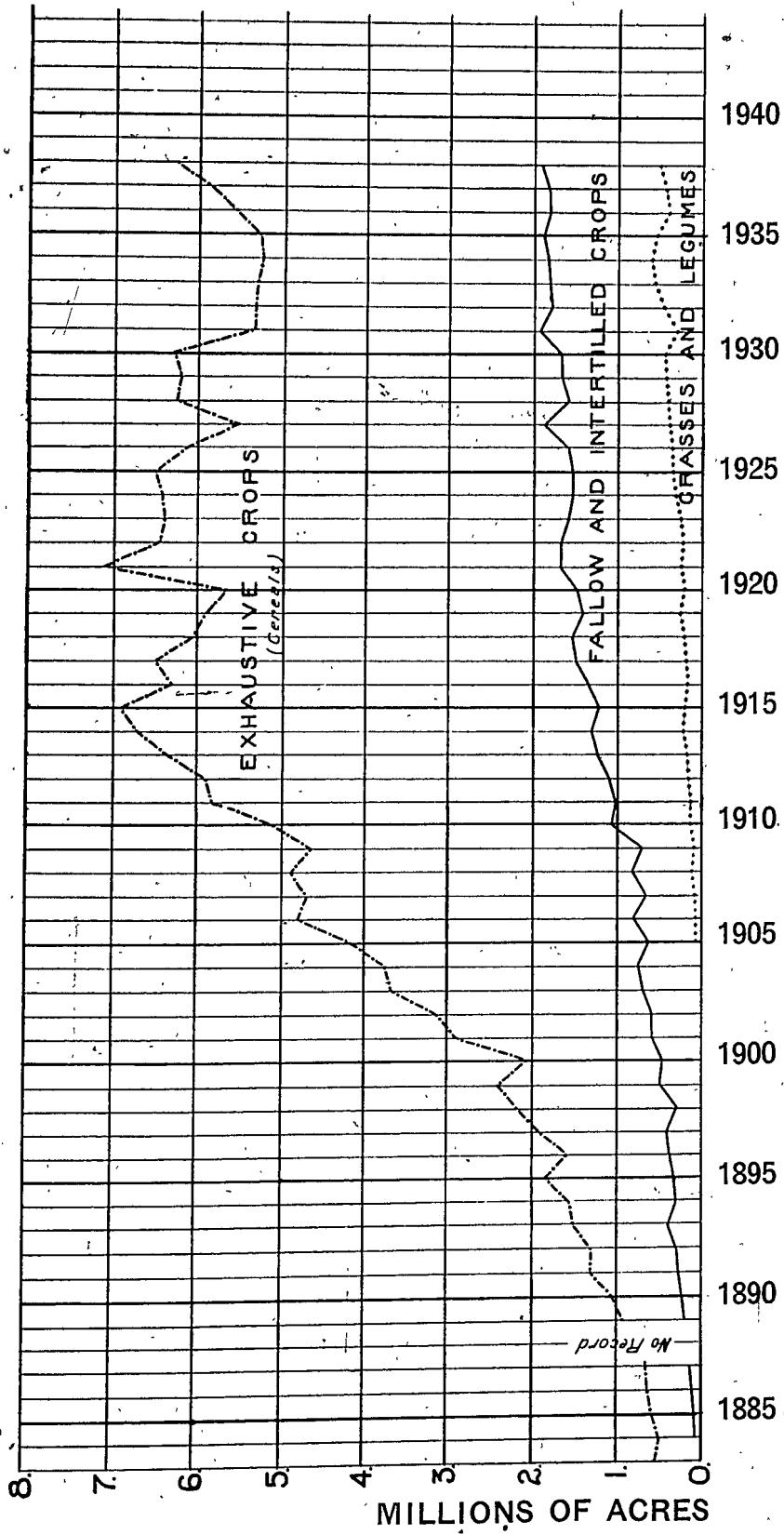
Since 1921 the total acreage under the plow has decreased in Manitoba, despite the fact that one and one-quarter million acres of breaking is recorded during this period. The cause of the acreage reduction may have been due partially to the temporary retirement of land because of drought; partially to economic conditions; partially to the abandonment of land which should never have been broken up; and partially to the abandonment of land because of soil erosion and to the effect of continuous grain production and fallow on the fertility of the light textured soils. Hence, apart from the need of more soil improvement crops for feed, already noted, there is an urgent need for an increase in the acreage of grasses and legumes on Manitoba farms from a soil conservation standpoint.

TRENDS BY CROP REPORTING DISTRICTS

A comparison of the annual acreages of the three groups of crops, for the fourteen Crop Reporting Districts, shows some slight difference in the acreage trends. The acreages of the various classes of crops by districts and years from 1921 to 1938 are shown in graphical form in Figures Nos. 4, 5, and 6. In this connection it should be noted that the fourteen Crop Reporting Districts were organized in 1921. Crop records by small local units are not available for the years prior to that date. In 1934, the boundaries of some of the fourteen districts were modified slightly. Therefore, for accurate comparison, the eighteen year period should be taken in two groups of years, namely, from 1921 to 1933, and from 1934 to 1938. However, for practical purposes, the changes in area were slight and the uncultivated land was more affected than the crop land.

Figure 3

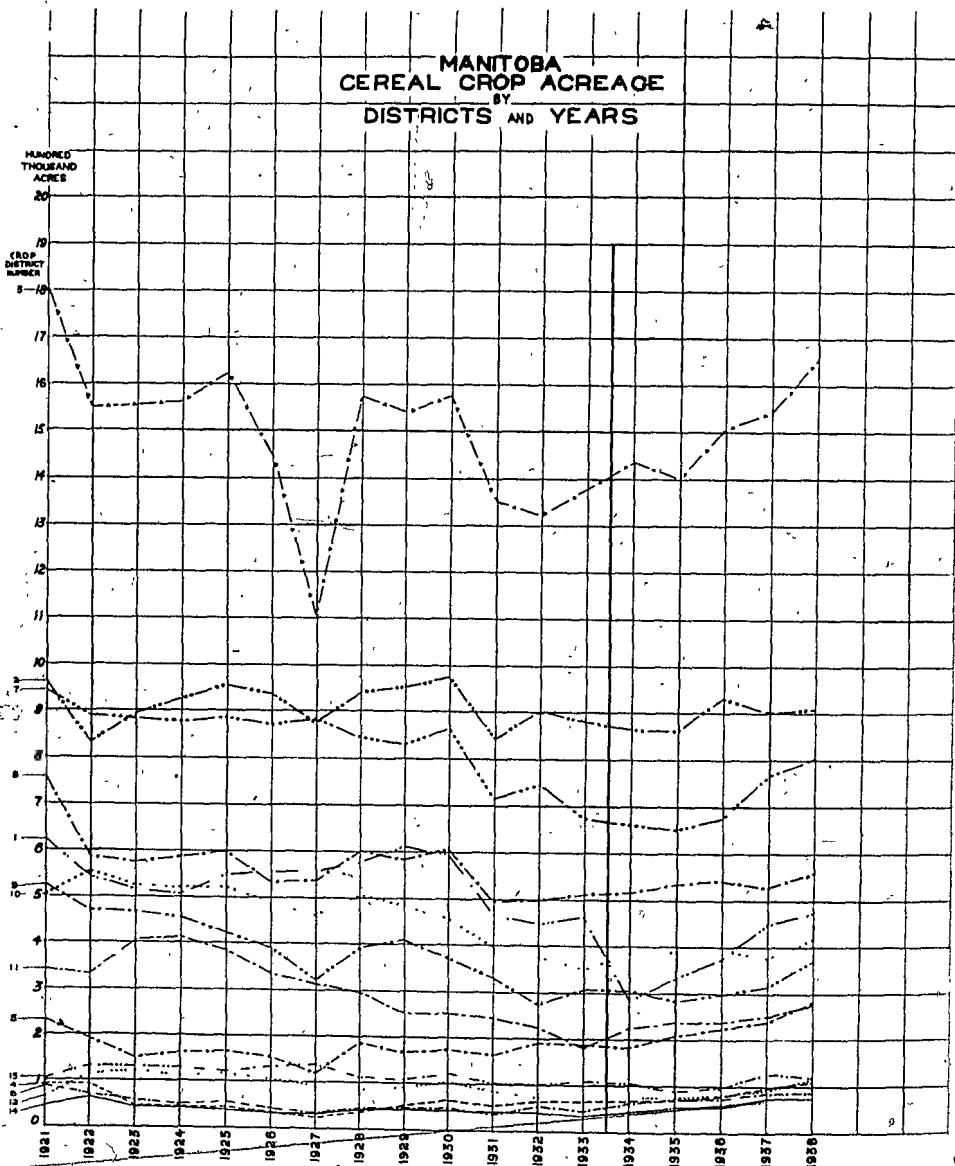
PROVINCE OF MANITOBA
COMPARISON OF CLASSES OF FARM CROPS



Total Acreages

(a) During the past eighteen years, total acreage decreases are shown in Districts Nos. 1, 2, 3, 7, 8, 9 and 10. These Districts correspond to the area where the major acreage of grain is produced. Total acreage increases during the eighteen years are shown in Districts Nos. 4, 5, 6, 11, 12, 13 and 14, namely in the area from Winnipeg east, the Inter-Lake and West-Lake areas, and the Swan River Valley. In other words, the increases in total acreage occurred in the pioneer areas due to the

Figure 4

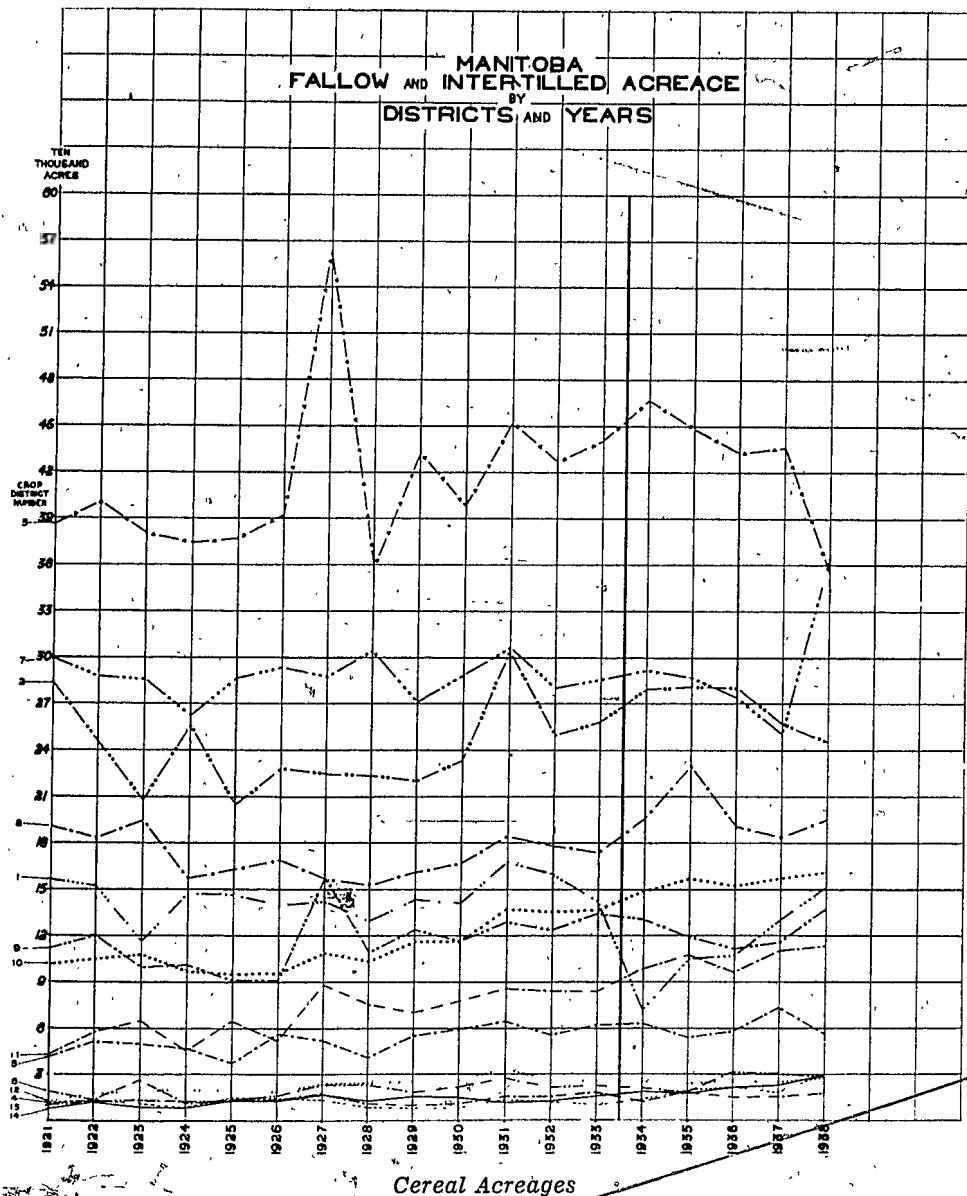


"breaking" of new lands. The decrease of total acreages in the older districts has been due partly to drought, partly to the temporary reduction of acreage for various reasons, partially to the abandonment of light textured soils due to soil drift-

MARKETS FOR WESTERN FARM PRODUCTS

ing, and probably partially due to the abandonment of submarginal land, after attempting to farm such soils for a brief period. The provincial decrease in total acreage was 3.8 per cent or 341,525 acres.

Figure 5



(b) A comparison of the cereal acreages for 1921 with those of 1938, shows a decrease in cereal crops in Districts Nos. 1, 2, 3, 7, 8, 9, 10 and 11, and an increase of these crops in Districts Nos. 4, 5, 6, 12, 13 and 14. The provincial decrease during this period was 11.9 per cent or 841,549 acres.

Fallow and Intertilled Crop Acreages

(c) A comparison of the acreages of fallow and intertilled crops from 1921 to 1938 shows a decrease in Districts Nos. 1, 2, 3 and 6, and an increase in Districts Nos. 4, 5, 7, 8, 9, 10, 11, 12, 13 and 14. The provincial increase during this period was

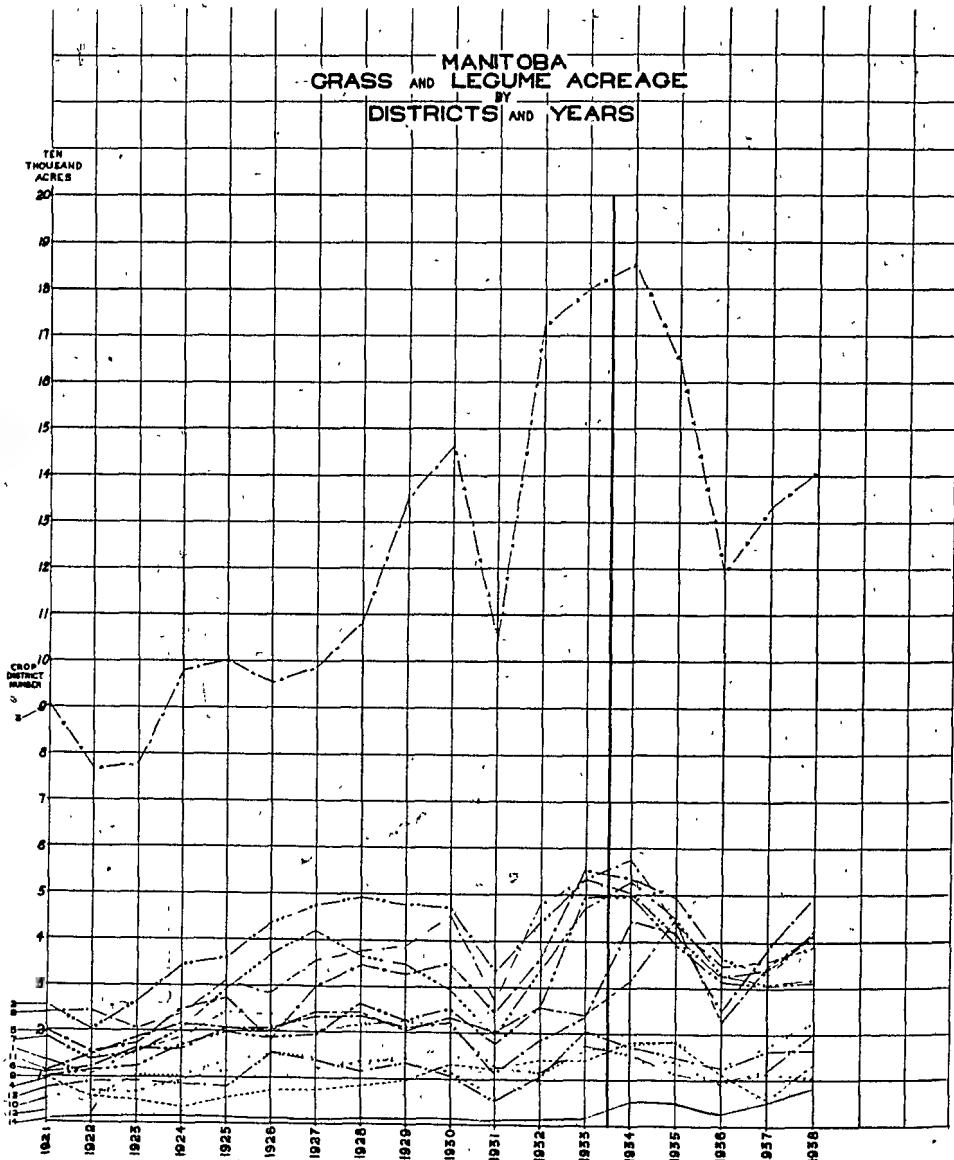
MARKETS FOR WESTERN FARM PRODUCTS

14.4 per cent or 240,402 acres. The increase in total acreage, in districts given, indicates the greater emphasis that is placed on fallow with increase in the length of time under cultivation; the decrease of fallow in Districts Nos. 1, 2 and 3, is associated with reduction in total acreage.

Grasses and Legume Acreages

(d) A comparison of the acreages of grasses and legumes in 1921 with those of 1938 shows that there has been an increase in all districts, largely due to an increase in the acreage of sweet clover. The acreage of all grasses and legumes in Manitoba

Figure 6



in 1938 was 203.7 per cent of that in 1921, or an increase of 259,622 acres. The general increase trend of these crops in all districts is shown in Figure No. 6. This general increase in grasses and legume acreage indicates a tendency to diversification. The graph lines in Figure No. 6 also show two periods of reduction, namely 1931 and

MARKETS FOR WESTERN FARM PRODUCTS

1936. The acreage reductions in these two years probably were due to grasshopper damage, or to failure to obtain a stand in the previous years. They suggest some problems that have to be faced in attempting greater diversification.

The acreages of the different classes of crops by Crop Reporting Districts for the past eighteen years show quite conclusively, that there has been no general increase in cereal acreage in Manitoba, but rather that there has been a tendency to a decrease in cereal acreage, especially in the older districts. The data also indicate that there is a general trend towards an increase in the acreage of grasses and legumes, (soil improvement crops), but as pointed out above, the relative percentage is still too small in comparison with the number of livestock kept, and with the need of grasses and legumes for soil conservation.

CONDITION AND USE OF ALIENATED LAND NOT UNDER CULTIVATION

As already pointed out the total land alienated from the Crown is 21,388,800 acres. It has been shown also that the average amount of land under cultivation during the five years from 1934 to 1938 is 7,992,394 acres. This leaves a balance of 13,396,406 acres which have been alienated from the Crown but which are not under cultivation. The condition of this land as shown by Stevenson,* is given as follows:

	Per Cent.
Grass	47.71
Muskeg	8.48
Rock	0.05
Brush	7.00
Non-productive forest	2.88
Productive forest	33.30
Roads and towns	0.58
	<hr/>
	100.00

Approximately 54 per cent of the non-cultivated land listed above occurs on farms. Such land as is suitable is used as pasture or as native hay and as woodlots; the balance may be considered as marsh and waste land. Records of the actual acreage of the non-cultivated land which is used as pasture are not available, but the native grassland and brush in the different Crop Reporting Districts is used to provide pasture for a considerable portion of the stock kept. Part of the native grasslands, (especially in the low positions), are used to supply native hay. The estimated production of wild hay in tons by Crop Reporting Districts for the four years from 1934 to 1937 is given in Table No. 13.

TABLE No. 13
ESTIMATED ANNUAL PRODUCTION OF WILD HAY IN TONS
1934-1937 (Four-year Average).

District No.	Tons of Hay (4-year Average)	Tons of Hay per 100 Acres of Cultivated Land
1.	31,500	6.2
2.	64,250	5.3
3.	126,500	6.1
4.	5,000	4.2
5.	54,500	16.5
6.	24,750	18.6
7.	75,000	7.2
8.	35,500	4.6
9.	40,750	8.6
10.	70,000	12.5
11.	40,250	10.4
12.	152,250	115.3
13.	13,250	8.8
14.	67,250	74.7
Total provincial yield	800,750	

* "The Forests of Manitoba," Manitoba Economic Survey Report No. 8, by H. I. Stevenson. Provincial Forester, Department of Mines and Natural Resources.

Thus, in addition to supplying pasture, the non-cultivated lands supply approximately 800,000 tons of wild hay. This supplies roughage for the livestock supplementary to that produced on the cultivated lands.

CROWN LANDS

Use and Condition of Crown Lands in the "Accessible" Portion of the Province.

The Crown lands in the so-called "accessible" portion of the province comprises 33,248,000 acres. These Crown lands include:

1. Timber licenses	761,600 acres
2. Pulp leases	1,676,800 "
3. Forest reserves	2,848,000 "
4. Vacant Crown lands	27,961,600 "
Total	33,248,000 "

The condition of these Crown lands has been estimated as follows:

Grassland	671,380 acres
Muskeg	10,974,720 "
Rock	835,200 "
Brush	380,800 "
Roads and towns	608,640 "
Non-productive forest, which includes treed muskeg, treed rock, and dry sites	9,091,200 "
Productive forest, which includes, soft woods, mixed woods, and hard woods	10,686,080 "
Total	33,248,000 "

In addition to the 21,388,800 acres of alienated land and the 33,248,000 acres of Crown land in the so-called "accessible" portion of the province, there are 12,646,400 acres of water.

CROWN LANDS IN THE SO-CALLED "INACCESSIBLE" PORTION OF THE PROVINCE

The so-called "inaccessible" portion occupies the northern part of the province. This is made up of 89,220,480 acres of land and 4,668,800 acres of water, or a total area of 93,889,280 acres. The land in this portion of the province includes the tundra; the tundra-forest transition; and the rock out-crop, swamp, and podzol soils of the Laurentian Shield. This northern division is important from the standpoint of mining, furs, game, etc., but it may be dismissed from the consideration of agricultural use at the present time.

SUMMARY OF LAND USE IN MANITOBA

The total area of the province of Manitoba is 161,172,480 acres, of which the land area is 143,857,280 acres, and the remainder, 17,315,200 acres, is water. The land alienated from the Crown is 21,388,800 acres, and of this 15,202,080 acres are listed as farm land, 52.6 per cent of which is under cultivation, and 47.4 per cent is not cultivated.

The amount of cultivated farm land in Manitoba at the present time is approximately eight million acres, or 5.5 per cent of the total land area. This is less than one-half the water area of the province. The cultivated lands are located chiefly on the black earth soils, the northern black earth soils, the dark brown-black earth transition soils, and the black earth soils under woodland invasion.

On the cultivated farm lands cereal crops constitute 70.48 per cent; fallow 21.95 per cent; grasses and legume crops 6.28 per cent; and intertilled crops 1.29 per cent. The wheat acreage is approximately 2½ million acres, or 34.4 per cent of the total farm lands under cultivation. This is only 1.9 per cent of the total land area of the province. The approximate acreage of oats is 1½ million acres; barley

MARKETS FOR WESTERN FARM PRODUCTS

1½ million acres, and fallow 1½ million acres. Hence the acreage of wheat, oats, barley, and fallow combined, accounts for around 90 per cent of the land under cultivation.

A comparison of the amount of stock kept on Manitoba farms with the acreage of forage crops produced on the cultivated land and the wild hay produced on the uncultivated grassland, indicates that there is not sufficient provision made to satisfy the present forage requirements. Too much dependence for the necessary roughage is being placed upon the oat crop and the cereal straw. The inadequacy of satisfactory feeds is also indicated by the grades of cattle marketed from Manitoba points. Two out of every three butcher cattle marketed show a lack of finish. The relationship of feed crops to livestock indicate that, in the utilization of the cultivated lands on Manitoba farms, there should be an increase in the acreage of grasses, legumes, and corn. From 1921 to 1938 the acreage of grasses and legumes increased 203.7 per cent, but the acreage of these crops is still inadequate both from the standpoint of a supply of forage, and from the standpoint of soil conservation. Therefore a shift in the proportional acreage of the different classes of crops is needed to insure a better balanced utilization of the arable land.

A comparison of the acreages of the various classes of agricultural crops in Manitoba by years from 1883 to 1938 shows that there was an expansion in cultivated acreage from 1883 to 1915. From 1915 to 1938 the total acreage fluctuated around a common mean with the peak year of cereal production occurring in 1921. Hence, for the past twenty years, Manitoba cannot be accused of adding to the world's surplus of grain by an increase in the acreage sown to cereal crops.

In the years from 1921 to 1938, there has been a reduction in the total acreage in Manitoba, despite the fact that one and one-quarter million acres of new breaking were reported during this period. With the relatively small percentage of land devoted to arable agriculture, Manitoba should not permit exploitation and erosion of the good soils. It is important that this province adopt a vigorous policy of soil conservation in order to keep good farm lands productive. To this end, some adjustment should be made in the utilization of the arable lands in Manitoba, but such adjustment should be made from the standpoint of soil conservation rather than from the economic standpoint of over-expansion of cereal acreage.

In addition to the cultivated lands there are 13,396,406 acres of non-cultivated soils alienated from the Crown. This land may be classified as grassland, muskeg, rock, brush, non-productive forest, productive forest and roads and towns. 54 per cent of this uncultivated land occurs on the lands listed as farms. The uncultivated grasslands on and adjacent to farm lands are used for pasture and for the production of wild hay.

In addition to the cultivated and uncultivated lands alienated from the Crown, in the so-called "accessible" portions of the province, there are 33,248,000 acres of Crown lands. Of these Crown lands, timber licenses account for 2.3 per cent; pulp leases, 5.0 per cent, and forest reserves, 8.6 per cent. The remaining 84.1 per cent is held as vacant Crown lands. In addition to the land area in the "accessible" portion, there are 12,646,400 acres of water.

The so-called "inaccessible" or northern portion of the province is held by the Crown. The Crown lands, in the northern portion of the province, account for 89,220,480 acres of land and 4,668,800 acres of water, or a total of 93,889,280 acres. This northern portion of the province is important from a standpoint of mining, furs, game, etc., but it may be dismissed from a consideration of agricultural land use at the present time.

THE CHAIRMAN: Thank you very much, Professor Ellis. We will now hear from Dr. J. Mitchell, of the Soils Department of the University of Saskatchewan, Saskatoon. Dr. Mitchell.

SASKATCHEWAN SOIL ZONES

by

J. MITCHELL

SOILS DEPARTMENT, UNIVERSITY OF SASKATCHEWAN

There are four main soil zones in Saskatchewan*, namely:

1. Brown.
2. Dark brown.
3. Black.
4. Grey.

The areas of each are approximately:

Brown soils	20 million acres
Dark brown soils	18.5 million acres
Black soils	18 million acres
Grey soils	Undetermined, but extensive

Since climate and vegetation are main factors in determining some of the broader characteristics of soils, the soils of an area reflect the impact of these two natural agencies over the period of their development.

The type of agriculture successfully developed in an area is conditioned by both the climate and soils of that area. The soils of the brown soil zone, as the name indicates, are of a brown color in the surface layer. The amount of organic matter present is moderately small and the profile relatively shallow. The natural vegetation is mainly grasses of the shorter types, with the occasional occurrence of such dry climate plants as cactus, sage and geasewood. The climate of this zone is the most arid of any within the province.

The soils of the dark brown zone have a higher average content of organic matter than the brown soils. The grass growth is a little more luxuriant than in the brown zone, and such plants as the cactus and sage brush are practically absent. Moisture conditions are somewhat more favourable than in the brown soil zone.

The dark brown soils may be considered as transitional or intermediate to the black soils of the park belt. In this zone grass land vegetation gives way to a mixed vegetation of grass and trees although the main influence on the soil has been due to grass. Taller growing grass species are present and a greater luxuriance of growth is evident. The climate of the park belt is decidedly more moist than that of the open plains. It must be pointed out however, that this is due to increased precipitation only in the eastern areas. In the northern areas lower temperatures account in the main for increased moisture efficiency.

The grey soil zone has only been studied along its southern fringe. The natural vegetation is a forest type, and under the influence of this type of vegetation soils have developed which are low in organic matter and which have also suffered considerable chemical leaching. Moisture conditions are favourable to plant growth, but the growing season is considerably shorter than on the plains. This is especially true of the western portion of the zone.

Throughout the above zones are to be found good and poor soils, as considered from the standpoint of their suitability for cultivation. The good soils of the plains area of brown and dark brown soil are suitable for the production of high quality spring wheat, the poor soils mainly to grazing.

In the park belt area (black soil) diversification of crops is favored by the better moisture conditions, so that coarse grains and forage crops become more prominent. In some portions of this zone a shorter growing season influences the proportion of land devoted to the earlier maturing crops. In the grey soil zone

See Figure 3, Page 169. *See Footnote, Page 169.

agricultural development is in the pioneer stage. However, the condition of naturally low fertility will undoubtedly influence agricultural practice in this area so that attention will quickly be directed to this problem. The ordinary practices of grain farming as carried on in the plains and park land area are not likely to be successful.

Considering the area already mapped in Saskatchewan, the proportion of land considered fair to excellent for arable agriculture is about 50 per cent. The total area covered by the present soil map (soil survey report No. 10) is about 60 million acres. Approximately 30 million acres are now under cultivation in this province, and possibly two million acres of this 30 million lie north of the surveyed area. If 30 million acres (or 50 per cent) are arable in the area mapped, it appears that possibly some two million acres of suitable land remains to be broken within the area covered by the soil survey. This will lie mostly within the park belt. However, this probable increase in cultivated land is likely to be more than offset by the fact that a considerable acreage has been cultivated which has, or will revert to sod. Any increase in total acreage of cultivated land will be mainly accounted for by the clearing and breaking of soils of the grey soil zone.

Considering the area included in the maps of soil survey report No. 10, the soils have been grouped according to their suitability for cultivation into excellent, good, fair, poor and very poor, or non-arable soils. The acreage of each group is as follows: (This tabulation was made in 1935).

Excellent	7,800,000	acres
Good	10,200,000	"
Fair	14,400,000	"
Poor	11,100,000	"
Non-arable	15,800,000	"

Very little land of the last group has been put under the plow, but considerable cultivation of the poor lands of the second last group has been undertaken. Some of the land of the fair soil group has suffered loss of fertility due to wind erosion. Soils of the last two groups which have been brought under cultivation will, it appears, eventually revert to grass or some other use, or if they can be retained under an arable form of agriculture, a greatly modified type of farming practice will be necessary.

NEED FOR SOIL CONSERVATION

Whatever agricultural use is made of land there is a certainty that in the end sound practices towards maintaining fertility become necessary. We must frequently take stock of the situation to see what the results of agricultural practice may have on soil resources. If the land is our great natural heritage then so it should be to the succeeding generations. We must needs be on guard to see that this resource is being conserved in a fit state for continued productivity.

There may be some who are still under the influence of those who spoke not many years ago of these "wonderful inexhaustible" soils of the western plains. Sometimes such people had some land to dispose of and it is even possible that some of us here bought a "good black sandy loam" on recommendations quite as extravagant as the above. It is probably under a sand dune now. This wasn't the land's fault. It was man's fault. This onset of wind erosion is a symptom of something deeper. Loss of productivity precedes the more drastic conditions of erosion, and the end is not yet. Almost every year new areas are being affected. No soil has "inexhaustible fertility." If that were true we would hardly need farmers, but rather mechanics and miners in the business of producing the products of the field which nourish animals and mankind.

The philosophy of agriculturists must be built around this fundamental need of using the soil while conserving it, for it is only in this way that nations and all mankind can continue to exist.

We must realize that some of the fertility has been removed with every crop we have produced. It has been sold in trade for the things we needed in developing the country. Science to be sure has aided and abetted the transaction. Advance in science allowed the development in industry which employed laborers requiring cheap food. Science gave us transportation, and new methods of producing the food, and the new worlds provided the land to exploit. We are still striving to sell our land's fertility at fire sale prices. When the inevitable time arrives when fertility must be restored we can rest assured that no bargain rates will prevail for the elements we require. Fortunately, outside of lands which have suffered wind erosion, no serious decline in yields due to declining fertility is apparent as yet, and should never be allowed to become apparent, because if fertility and yields do become seriously affected, then the cost of rectifying the condition becomes increasingly great and the task more difficult.

The most serious problem is still that of soil drifting. Destruction of the soil to the point where it is almost worthless for any purpose (and indeed becomes a positive menace) occurs so swiftly that many people fail to realize what is happening. Much good work has been done towards its control, but finally complete control must be obtained—the fight will be a long one. It is a disturbing fact that drifting is appearing to menace some of our northern lands. In facing this, and other problems concerned with preserving our soils, we need a far broader and more general conception of the importance of soil conservation, not only to individuals, or provinces, but to the whole nation.

Before the white man brought the plow to these plains, they had a protective cover of vegetation, mainly of grass. Under the grass cover an abundant storing up of nitrogen and organic matter occurred. Within the space of less than half a century we find ourselves faced with the necessity of returning much land which had been cultivated, to grass. It is true that such land was not of the best quality to begin with, but that fact should not lull us into any sense of security as regards the possibility of destruction overtaking even our best soils.

THE CHAIRMAN: I wish to thank Dr. Mitchell for his presentation of this important subject. Continuing our discussion of soil resources, I am now going to call upon Dr. Wyatt, Soils Department, University of Alberta. Dr. Wyatt.

WESTERN AGRICULTURAL ZONES AND THEIR ADAPTABILITY TO VARIOUS TYPES OF FARMING

by

F. A. WYATT

PROFESSOR OF SOILS, UNIVERSITY OF ALBERTA, EDMONTON

Reference to the map showing the distribution and the extent of the various soil zones, emphasizes the following points: (See Figure 3, Page 169.)

1. The soils with agricultural possibilities extend in a southeast northwest direction from Manitoba to the Peace River country in Alberta.
2. The grass land soils (including the black park land soils) occur to the south of the grey wooded soils, and occupy a smaller area than do the wooded soils.

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3. The light brown soils occur only in Saskatchewan and Alberta, whereas the dark brown soils occur chiefly in Saskatchewan and Alberta, but the black soils are found to a great extent in all three provinces.

4. Over 50 per cent of the grass land soils in the three Prairie provinces are to be found in Saskatchewan, whereas the majority of the grey wooded soils occur in Alberta.

Most of the settlement in the three Prairie provinces is to be found on the grass land soils, where about 50 per cent of the total area has been cultivated, but this amount is not necessarily cropped every year. The size of the average farm is greater and the density of population less in the light brown soil zone than in the dark brown or the black soil zones. For the light brown soils possibly about 50 per cent might be considered improved land, with the average of the farm unit about 660 acres. In the dark brown soil zone about 65 per cent might be considered as improved land, with the size of the farm unit about 480 acres, whereas about 60 per cent of the black soils are improved, with the size of the farm unit about 280 acres. Thus it will be seen that the size of the farm unit in the black soil zone is about one-half that of the average for the remainder of the grass land soils.

The density of population in the grass land zone is approximately as follows: Light brown soils less than two per square mile, dark brown soils vary from two to five per square mile, and the black soils vary from five to ten per square mile.

The total extent of the grass land soils in the Prairie provinces and their distribution within each of the three provinces is shown below:

COMBINED AREA OF GRASS LAND IN THE THREE PRAIRIE PROVINCES

Three Prairie provinces approximately 106,000,000 acres.

In Saskatchewan about	60,000,000 acres
" Alberta about	35,000,000 "
" Manitoba about	11,000,000 "

The three soil zones constituting the grass lands of the Prairies are made up of 34,000,000 acres in the light brown zone, 30,000,000 acres in the dark brown zone and 42,000,000 acres in the black zone. The distribution of these soils in each of the three provinces is as follows:

LIGHT BROWN SOILS

Saskatchewan	21,000,000 acres
Alberta	13,000,000 "

DARK BROWN SOILS

Saskatchewan	17,000,000 acres
Alberta	13,000,000 acres

BLACK SOILS

Manitoba	11,000,000 acres
Saskatchewan	22,000,000 "
Alberta	9,000,000 "

Total grass lands 106,000,000 acres

GREY WOODED SOILS IN THE THREE PRAIRIE PROVINCES

The total area of the grey wooded soils in the three Prairie provinces is greater than that of the grass lands. These wooded soils occur in a small proportion in

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Manitoba, an intermediate proportion in Saskatchewan, and to the greatest extent in Alberta. In Alberta alone the extent of this soil zone is in excess of 100,000,000 acres. Owing to the topography, low initial fertility, inaccessibility and other factors the majority of these wooded soils are not suited for cultivation. However, it should be pointed out that with the use of proper crops and fertilizers extensive areas of these soils can some day be made to produce satisfactory crops.

ALBERTA

The extent of the various soil zones, the acreage devoted to wheat, and the average wheat yields, together with other crops grown during the period 1930 to 1938 are shown in the following summaries. The period 1930 to 1938 has been used since this tends to present the present picture, and furthermore, while there has been considerable abandonment of lands in certain parts, the total area of land cultivated within the province has either held its own or slightly increased during this period. The total land area in Alberta is 163,382,000 acres. Of this 252,925 square miles is land area and 6,485 square miles is water area.

**ACREAGE OF WHEAT AND AVERAGE YIELD IN VARIOUS SOIL ZONES
IN ALBERTA. 1930 TO 1938.**

	Total Acreage in Zone	Wheat Acreage	Av. Yield Bushels
Light brown soils	13,000,000	1,500,000	11
Dark brown soils	13,000,000	3,000,000	15
Black soils	9,000,000	2,200,000	19
Transition soils	8,000,000	750,000	15
Wooded soils and waste lands	110,000,000	250,000	12

The average wheat yield in Alberta for the years 1930 to 1938 was 15.3 bushels. The average yield of wheat in Alberta since 1910 was 17.6 bushels.

CULTIVATED AND CROPPED LANDS IN ALBERTA, 1930 TO 1938

Acres in wheat	7,700,000
" " oats	2,700,000
" " barley	1,000,000
" " rye	200,000
" " flax	25,000
" " beets	20,000
" " potatoes	30,000
" " green feed	1,750,000
" " hay and clover	300,000
" " alfalfa	100,000
Total acreage in crops	13,825,000
" " under cultivation	17,725,000
Acreage in fallow	3,900,000

Of the 13,825,000 acres in Alberta producing crops the following acreages expressed in percentages are devoted to the various crops:

Wheat approximately	56 per cent
Oats approximately	20 "
Barley approximately	7 "
Rye approximately	1.5 "
Green feed and hays approximately	15.5 "

This shows that approximately 84 per cent of the crop acreage of Alberta produced wheat and the coarse grains, and approximately 15 per cent produced green feed and hays.

CROPS ADAPTED TO THE DIFFERENT SOIL ZONES

Soil type, climate, rainfall variability and the cost of production are the principal factors affecting crop production in the three Prairie provinces. The specific problems in each of the provinces differ more in degree than they do in kind, the difference being related to the general distribution of the soils. For example, Manitoba has practically no brown soils, Saskatchewan and Alberta have large areas of brown soils; the black soils occur in all the Prairie provinces but to the greatest extent in Saskatchewan; the grey soils are also found in all these provinces but to much the greatest extent in Alberta.

BROWN SOIL ZONES

Particular attention should be given to the brown and dark brown soil zones. In spite of the scarcity and uncertainty of rainfall they constitute the natural wheat belt of the Prairie provinces. It is here that high quality wheat is generally produced. Judging by past experience the brown soils must be utilized principally for the production of wheat or as grazing lands. So if extensive reduction in wheat acreages is to be made in the Canadian Prairies it cannot be brought about by means of substituting to any great extent large acreages of other grains for wheat in these brown soils. Any large reduction in the brown soils would mean, in a large measure, withdrawing from wheat production, lands whose only alternative is the production of grasses.

One exception to the above statement might be made with respect to Alberta, because of a greater supply of water easily available for irrigation there is a possibility of more extensive irrigation in Alberta than in Saskatchewan. With irrigation it is possible to grow such crops as potatoes, alfalfa, hays, beets, peas, beans, and truck crops, and to materially reduce the acreage of wheat on these projects at present. This means extensive cultivation of the lands, diversified crops, mixed farming and denser populations where irrigation can be practised.

BLACK SOIL ZONE

While it is possible to grow wheat of high quality in certain parts of the black soil zone, the entire area of black soils does not necessarily produce our highest quality of wheat. Here the climate is of such a nature that other crops might very well be substituted for some of the wheat now grown in this zone. The question of clovers and hays should assume an important position in the cropping system for the black soils. This means that it is possible to distinctly increase mixed farming in this zone. Such an increase would not only reduce the wheat acreage, but would likewise tend to maintain the productive capacity of the soil.

GREY WOODED SOIL ZONE

There will of necessity have to be some readjustment of settlement in the drier portions of the Canadian Prairies. New locations for settlers from these areas will have to be found to a large extent in the wooded soil zone. Increased settlement therefore in the future will have to take place on the wooded soils.

While the total area of the wooded soils is rather extensive (upwards of 100,000,000 acres) there is only a fraction of this total amount which can economically and conveniently be settled in the near future. The difficulties involved in bringing the soils of this zone under satisfactory production are found in the heavy costs of clearing the land, the present inaccessible location of most of these lands with respect to railways and highways, and the low initial fertility of the soils. It is seen from the above statement that considerable capital and time are required before these lands can be brought under cultivation. Furthermore their settlement should be the result of a well planned and well directed slow orderly programme.

There is no doubt that these soils, when properly managed, can be made to produce satisfactory crop yields. Proper management of these soils, however, means that a fairly high proportion of the cultivated land must be used for the production of legumes, and that a rational use of fertilizers must accompany the cropping system.

In their initial condition the wooded soils are capable of producing wheat at the rate of about ten bushels per acre and hay at the rate of one ton per acre. By the proper use of crops and fertilizers during the last ten years the results on these soils in Alberta have shown that it is possible to produce from two to three tons of the clover hay per acre, upwards of 30 bushels of wheat when this is the first crop after clovers, about 50 bushels of oats as the second crop after clovers, and about 25 bushels of barley as the third crop after clovers. This indicates that from the standpoint of the grain crops it might be more desirable to produce only two crops of grain after clovers.

These results clearly indicate that the proper management of these soils involves the production of fairly large quantities of the legume hays, which in turn means the inclusion of livestock in these areas.

The wheat produced on these wooded soils is in general of low protein content, and it seems reasonable to say that the production of this crop on this soil zone should be kept at a minimum. By this it would not seriously compete with the wheat produced from areas where wheat is almost the only crop that can be produced, and where the quality is almost invariably high. On the other hand the grey wooded soils seem to produce legume seeds very satisfactory, and this phase of agriculture might very well form an important item in the crop programme.

It is only fair to point out that in certain countries soils initially as low in fertility as these soils form the majority of their arable lands, and that when the use of these soils on the Canadian Prairies becomes sufficiently urgent it will be possible to produce large quantities of crops from this soil zone.

It might be estimated that at least 12,000,000 acres of these wooded soils could be brought under cultivation when the demands become sufficiently urgent to justify their development.

The foregoing discussion compels us to ask the following question: What are the natural limitations involved in shifting the proportional or the total wheat production of the Prairie provinces? The factors involved are soil, climate, inaccessibility and relative costs. In the drier portions of the Prairie it is impossible to substitute in any large measure any crop other than grass for wheat. It is, however, possible to substitute to some extent other crops for wheat in the black soil zone. Furthermore, it is not only possible but desirable and necessary to produce large proportions of clovers in the wooded soil zone.

The maintenance of a satisfactory permanent productive power of Canadian Prairie soils must be considered in connection with any and all of the farming practices. With the black soils which are initially fertile the question of maintaining satisfactory crop yields is not brought to the farmer's attention until the yields have commenced to decline. On the other hand the farmer on the wooded soils is faced with the necessity of constantly attempting to keep up or improve the productive power of these grey soils from the very beginning if he is to receive satisfactory yields.

THE CHAIRMAN: Thank you very much, Dr. Wyatt. It has been suggested in some quarters that if the problem we have had here is a problem of overdevelopment of wheat growing, one means of helping solve the problem is by shifting from wheat growing to some other type of farming. As a preliminary to a talk this after-

noon we had the soils men from the universities in the three Prairie provinces talk with you about the soil zones of this area. We are now to have a talk on "The Possibilities of Shifting from Wheat Growing to Other Types of Farming in Western Canada, and the Implications of Such Changes." The gentleman who is going to present that paper is one who is perhaps better fitted to do so than any other one man in western Canada, the Honourable J. G. Taggart, Minister of Agriculture for Saskatchewan. Mr. Taggart is fitted for that task because of his early experience on the farm, his technical training, his experience in the drier part of the grain belt, and his more recent experience as Minister of Agriculture for Saskatchewan. In that capacity he has made a special study of the particular question that is coming up today. The Honourable Mr. Taggart.

THE POSSIBILITIES OF SHIFTING FROM WHEAT GROWING TO OTHER TYPES OF FARMING IN WESTERN CANADA AND THE IMPLICATIONS OF SUCH CHANGES

by

HON. J. G. TAGGART

MINISTER OF AGRICULTURE, PROVINCE OF SASKATCHEWAN

MR. CHAIRMAN, LADIES AND GENTLEMEN:

The two significant words in this title are "possibilities" and "implications." It is clear from these words that any conclusions reached are statements of probabilities or expressions of opinion rather than statements of fact. However, since opinions are, or should be, based upon facts, it would be well to first of all set out the basic facts which appear to be important in the consideration of this topic.

Table No. 1 shows the use of land by major classifications in Canada and in the Prairie provinces. This table is presented to reveal the present situation—particularly to indicate the relative importance in the matter of acreage of the different major crops. This picture of the present situation seems an essential prerequisite to any consideration of possible shifts or changes.

TABLE No. 1

Acreages of principal crops classified by groups together with acreages of pasture, new breaking and summerfallow—1936.

	Canada acres	Prairie Provinces, acres
Wheat	25,604,800	24,837,000
*Other grains	18,827,750	13,428,900
†Other field crops	2,628,900	192,400
‡Fodder crops	10,698,400	1,735,500
Total crop acreage	57,759,850	40,194,600
Pasture (cultivated)	9,026,174	1,578,800
New breaking	—	474,900
Fallow	—	16,854,600

*Includes oats, barley, flax, rye.

†Includes potatoes, buckwheat, mixed grains, turnips, sugar beets, all other roots and other crops.

‡Includes alfalfa, clovers and all grasses, grains cut for hay, corn and all other fodder crops.

Data shown for the Prairie provinces taken from Quinquennial Census, 1936 (Bulletins XXII, XXV, XXVIII) with exception of figures for new breaking. Figures for Canada adjusted to correspond.

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In Tables Nos. 2 and 3 an attempt is made to show the land use in relation to the major soil-climatic zones of the Prairie provinces. The reason for presenting land use data in this way is the assumption that shifts from wheat to other crops or other products are more likely to take place in some zones than in others. It would seem, therefore, that with the data separated as they are in Tables No. 2 and 3, it may be possible to more accurately estimate possible shifts.

TABLE No. 2
Land use by soil zones—Prairie provinces
(in millions of acres)

Zone	Improved			
	Land Acres	Wheat Acres	Other Crop Acres	Fallow Acres
Brown	33.5	14.8	5.4	10.3
Black, park and meadow	22.6	7.6	8.0	5.5
Grey timber and transitional	5.0	2.0	2.0	1.0
Totals	61.1	24.4	15.4	16.8

TABLE No. 3

"Wheat" and "other crops" in percentage of total crop acreage.

Zone	All crops	Wheat	Other crops
Brown	100	73.3	26.7
Black park and meadow	100	48.7	51.3
Grey timber and black transitional	100	50.0	50.0

In the discussion which follows it is assumed that farmers will, in the future as in the past, change their type of farming if the economic advantages to them individually appear to warrant the change. It is also assumed that they will be free to make these changes if and when they desire.

A glance at Table No. 1 indicates that out of a total of approximately 58 million acres of crops in Canada roughly 40 million acres are in the three Prairie provinces. A further glance indicates that the bulk of the cereal crop acreage of Canada is located in the Prairies with a corresponding preponderance of the hay and cultivated pasture acreage in other provinces of Canada. This distribution of crops is not accidental. Neither is it due in any large measure to the personal preference of the individual farmer. In general hay and pasture crops predominate in Quebec and the Maritime provinces because of climatic factors. Hay crops in those provinces yield larger returns of dry matter per acre than do grain crops. Moreover they yield these higher returns to the farmer at a lower cost to him. On the Prairies—the reverse is generally true. That is to say, of the crops which may be grown successfully on the Prairies, cereals generally outyield the others in dry matter per acre. The drier the area the greater the extent to which this is true. Moreover soil and climatic conditions make for much lower tillage and harvesting costs for cereal crops on the Prairies than in the eastern provinces. While such factors as markets, transportation and quality of product, are also important in determining the type of farming, it is my opinion that soil and climatic factors are the dominant factors in Canada.

The same general observations apply to the distribution of crops in the various soil zones of western Canada as apply to the distribution as between the Prairies and other provinces. However, the differences within the prairies are naturally less than between the Prairies and other regions.

When one considers shifting from wheat to other products, two possibilities appear to be open. One is to devote the land to the growing of crops other than wheat. The other is to continue growing wheat but use it otherwise than for direct human consumption. The most obvious example of the second method is to feed the wheat to livestock and then sell the livestock or livestock products for human food. Another possibility would be to use the wheat for some industrial product other than food.

Let us examine first the possibility of devoting the land to crops other than wheat. It is possible, of course, to state a hypothetical condition in which all land in western Canada now devoted to wheat, could be devoted to the growing of other crops. If wheat prices fell to very low levels, and continued at those levels for several years, and if, at the same time, prices of coarse grains or livestock continued at high levels, all of the farmers naturally would quit selling wheat and devote their efforts to the production of other, more profitable products. Such an extreme situation is not likely to occur; hence we should not give it very serious consideration at the present time. Taking the Prairie provinces as a whole, it seems likely that the first real possibility of shifting from wheat lies in the return of the poor land in the drier areas to ranching. This is a shift which has been taking place for some years and which, I believe, will continue for some years to come. The first stage is the abandonment of poor land. The next stage is growth of some vegetative cover such as Russian Thistle, and a third stage is the gradual repossession of the land by the native grasses. The third stage may be greatly hastened by seeding to domestic grasses. Accompanying the grass seeding there must be water development and public control to preserve the grass cover once it is reestablished. All of these things are in process of being done by the Dominion government under the P.F.R.A., with the active co-operation of the provinces. In my opinion it might be possible within a period of five years to withdraw as much as one million acres from the present wheat area by these methods. This would mean the withdrawal of perhaps two million acres of land from actual cultivation.

In Tables Nos. 2 and 3 it is shown that the percentage of cultivated land in the brown soil zone devoted to wheat is much higher than in the black and timber soil zones. It might be assumed from this that the brown soil zone offers the best opportunity to reduce wheat acreage by shifting to such crops as oats, barley and hay. In my opinion this is not the case. The percentage of wheat is high on the brown soils because it is relatively much better adapted to these soils and the prevailing climatic conditions than such crops as oats, barley and hay. In a considerable part of the brown soil zone a shift to other crops than wheat probably means a shift out of cultivation entirely.

It is in the black soil zones that there is the greatest opportunity to shift from wheat to coarse grains and hay crops. The reason for this is that generally coarse grains and hay are relatively more productive than wheat in these areas, and are also generally subject to fewer production hazards such as weeds, rust, and frost. Comparing the black soils with the brown we find that the quality and value per bushel of wheat are generally lower on the black soils. These and other factors such as water and shelter, greatly increase the possibility of shifting away from wheat in the black soil zone. The extent to which a shift actually will take place is generally dependent upon the relative price levels of coarse grains, on the one hand, and wheat on the other. These relative levels are generally influenced by livestock prices for the reason that there is a comparatively limited market for coarse grains as such. Most of the coarse grains must be fed to livestock. We have therefore reached the consideration of changing from wheat to other products through the process of feeding wheat or its equivalent to livestock.

If a farmer in the black soil zone decides to raise pigs, he might feed the pigs either wheat or coarse grains. In either case the result is the same insofar as the wheat markets are concerned. The question is then one of the relative returns from wheat and livestock products. It is often pointed out that Canada still has a considerable unfilled bacon quota in the British market, and it is urged that increased production of hogs would tend to solve the wheat marketing problem. There is, of course, some truth in this statement. However, it needs to be examined rather critically. With an average production of 16 bushels of wheat per acre it can be assumed that one acre of wheat will provide the feed for one 200-pound hog. Another rough calculation will show that bacon produced from about 2,400,000 200-pound hogs, would fill the entire bacon quota of 280,000,000 pounds. In other words, feeding the product of 2,400,000 acres of wheat to hogs would provide the product necessary to fill the whole bacon quota. In recent years the bacon quota has been filled to the extent of 40 per cent to 50 per cent from present hog production. This would seem to indicate that we might market the product of 1½ million acres of

wheat in the form of hogs without exceeding our bacon quota in the British market. Whether, if such an increase in hog production was actually undertaken, the whole increase would be of a quality fit to make exportable bacon, is a point that should be considered. If there is serious doubt on this point the excess production of types of pork suitable only for domestic consumption might be so great as to seriously reduce prices of domestic pork. However, in spite of the limitations it does seem that some shift of this kind could, and should, take place. I must point out, however, in my opinion, if the shift is pushed very far it might have disastrous consequences by way of reduced prices to all hog raisers in Canada.

Another possible shift would be from wheat to coarse grains and forage crops, which crops in turn would be used to feed dairy or beef cattle. Judging by the volume of production in relation to present markets and by prices of both beef and dairy products during recent years, the possibilities of this type of shift seem very limited. It is probably true that the consumption of both beef and dairy products could be somewhat increased if prices were maintained at very low levels. This, however, is not a situation which most farmers contemplate with equanimity.

In this discussion so far I have been dealing with what I think to be practical possibilities and reasonable probabilities. Suppose, however, that the extreme situation mentioned earlier in the paper actually did develop and continue and that wheat prices were, for a long period, much below the general level of agricultural commodity prices, what then might happen? In my opinion the shift to livestock and livestock products would be heavy and inevitable. This shift would put such pressure on the producers of livestock and livestock products in other parts of Canada that they would, in turn, attempt to save themselves by shifting to a variety of other products. The dairy farmers of Quebec, Ontario and Nova Scotia, might try to increase their production of fruit and vegetables to save themselves from the consequences of low prices obtainable for livestock and livestock products. A very small shift from livestock products into the more highly specialized fruit and vegetable field would quickly overproduce those commodities and in turn severely depress prices. Even such products as peaches and tobacco, which are limited in area by soil and climate, would likely feel the pressure. Present producers would, in all probability, find themselves faced with greatly increased competition from new growers attempting to share their markets.

I am quite well aware that I have not, by any means, covered all the possibilities which could, or should be discussed. My only purpose has been to indicate by a few outstanding examples, the consequences of any substantial shift from wheat to other products. The danger of serious damage to the whole agricultural industry of Canada is so great that an extensive shift from wheat should not be unduly encouraged, but perhaps at some stage should be actively opposed.

Let us now return for a moment to the first suggestion, namely the return of wheat land to grass and ranching. This, of course, would be a shift to the production of livestock but the increase in livestock production would be very slow. Much of the land now devoted to wheat growing could not be made to sustain any considerable numbers of livestock for many years. Moreover, even if it were entirely re-grassed, its carrying capacity in terms of animal units would be very low. This would mean that its carrying capacity for human population would be correspondingly low. If we were to withdraw as much as eight million acres from wheat production in western Canada it could be done only by the reversion of very large areas of country to range conditions, or by a percentage reduction of the wheat acreage on all, or nearly all farms.

Following the first course would mean abandonment of railways, elevators, schools, towns and villages and farm homes, within the area which reverted to range. I need not pursue further the economic consequences of this course to the whole country. But whatever we may think of the consequences to the country, we cannot evade the fact that thousands of families would be deprived of their only means of earning their living and would, therefore, be forced to seek homes and occupations elsewhere. Would these people be able to reestablish themselves elsewhere? If not, would the country be willing and able to make provision for them?

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Following the second course would seem less likely to bring general economic loss. This method of reducing acreage, however, would likely fall most heavily on the largest farms. These farms, generally speaking, produce wheat at the lowest per bushel cost chiefly because their large size permits the use of efficient equipment at a low cost per acre cultivated. Restriction of this kind would tend to raise production costs and would, to some extent at least, cancel any benefit resulting from higher prices due to smaller production.

All of these considerations lead me to the final conclusion that the first and most persistent drive of the western farmers, and of all of the people of Canada, ought to be to sell more wheat rather than to accept the proposition that wheat sales must be permanently restricted.

THE CHAIRMAN: I am sure you want me on your behalf to extend our most sincere thanks to the Hon. Mr. Taggart for the very splendid paper he has given to us in connection with the possibilities of shifting from wheat growing to other types of farming. I would like to extend to him as well, my own thanks for the co-operation that he and his staff have always so freely given to the Department of Agriculture of Manitoba.

This does give me the opportunity as well to just emphasize what has already been said regarding the nature of this gathering. It is a distinct gratification to all of us who have had anything to do with preparing for this conference, and I would not attempt to enumerate the splendid support we have had from every quarter. I would like to mention our gratification at the way the attendance is keeping up. That after all is a great measure of its success, and we do most sincerely thank all of you who have come from this city, and this province, and from the other provinces of Canada, and our visitors from the United States as well, to help along with this very important conference.

We might have some discussion on the subject that the Hon. Mr. Taggart has introduced. I know there will be some questions that you will want to ask, but I would suggest that you first hear a couple of leaders in the discussion in case they might anticipate some of the questions that might be asked. I am going to call on Mr. Rupert Ramsay, of the University of Saskatchewan, to say a few words regarding this paper.

MR. RUPERT RAMSAY

MR. CHAIRMAN, LADIES AND GENTLEMEN: The evidence already before us indicates that any shift in wheat acreage will be attended with great difficulties on our Prairie farms. Our people are familiar with the arts and technicalities of its production. They have found climate, soil and natural conditions all tending to assist them to produce wheat. A change would involve considerable resistance on the part of our farmers, and after all, as we know farmers, they are producing wheat because they find wheat most profitable to produce.

As already indicated further economies in wheat production may take place. Professor Hope pointed out this morning that about one per cent of the farmers of the prairie plains of Saskatchewan were in that most efficient group. Whether we could get them all in that group or not remains a problem. Larger farms, perhaps increased mechanization, improved tillage methods, and perhaps the use of artificial fertilizer, might result in a decrease in the cost of production. Our farmers all expressed desire and interest to get the latest information on cereal production. Why do they want to continue to grow wheat in such volume that, depending on location, 60 to 80 per cent of the total farm income is derived from the sale of this product?

They want to grow wheat because it has been most profitable. Oat yields over a major portion of Saskatchewan are 1.9 times those of wheat, but the farm price of oats is slightly less than one-third that of wheat, and oat harvesting costs are higher. That is the reason our people are interested in wheat. To not quite the same

extent the argument still applies to barley. Barley yields are about 1.7 times those of wheat, and barley prices are a little more than one-third those of wheat; that is the farm price of barley. So that even in the Park belt where coarse grains are grown under the most favourable conditions, we will find that the farmers will wish to continue to grow wheat. They do, however, grow coarse grains, probably because it lengthens out their seeding season, and so distributes their farm labour, and partly because the inclusion of a coarse grain crop helps them to get away from the difficulties which they get into by continued wheat production. Our progressive farmers are on the lookout for additional crops which will lend stability to their enterprises.

We find that in Saskatchewan in 1937 something over 4,000,000 acres of oats were grown, and over 1,000,000 acres of barley; about half a million acres of rye, and 175,000 acres of flax. Forage crop production in 1937 constituted about one per cent of our total field crop acreage. Potatoes occupied 50,000 acres, and as was suggested by a previous speaker, it would appear that the possibility of increasing the potato acreage is limited indeed. But as I say, even our progressive farmers are looking for sidelines to balance and provide some other ways of income, at least those with a long-sighted point of view.

Looking over the possibilities we find that some farmers are considering flax. We find that Canada is importing about one million bushels of flax annually. Should the construction industry revive again the demand would be much greater. Nearly 80 per cent of Canada's flax acreage is in Saskatchewan. The growing weed problem tends to make farmers fearful of embarking on the growing of flax, although within limitation it would appear to merit consideration.

We find from contact and correspondence with farmers that a proportion of them are becoming grass conscious. Could we contemplate the gradual return of say 20 acres of wheat land to grass on each Prairie farm within five years? If you could, you would take nearly 5,000,000 acres out of cereal crop production. That might be a factor that involves livestock, as was pointed out by Mr. Taggart, and also involves a consideration of markets. We will probably hear more about that by some of the future speakers. Would it be economically sound to assist a "back-to-grass" movement by some federal bonus? That is a question I would like to see discussed by this gathering.

I was struck by the contribution of Mr. Bredt and Dr. MacGibbon who indicated that our competitors in wheat production all balance their agriculture by the inclusion of some livestock. Argentina with cattle, and Australia with sheep, and the United States with a combination of both. What is there left in the line of livestock for Canada to choose from if some balance must be obtained? The answer to that might be hogs.

One other fact that might have some bearing in a very small way on a conversion of some of the wheat acreage is that Canada annually imports a little less than a million dollars worth of oils. Would it be possible to produce such oils in this country? That is a question that might bear further discussion.

In connection with the production of livestock it seems to me that the basic fact that governs volume of our livestock production is reserve feed supply. We in Saskatchewan are particularly subject to ups-and-downs in feed supplies, and we are the worst offenders as far as contributions to our Canadian hog and bacon exports are concerned. It seems to me if we are going to have livestock included in the general prairie plan we must take some step which will lead to the farm storage of feed reserves, so that we can produce livestock year in and year out, perhaps even in a moderate way.

Even so late as last year the population of hogs in Saskatchewan dropped 41 per cent. Violent fluctuations in hog supplies has been a great difficulty to those marketing agencies who have been trying to keep the British bacon market. I think feed reserves and feed supplies are fundamentals that we must consider if we are going to talk livestock production in a sane and logical way.

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Recent trade agreements have opened up channels for 75,000 additional cattle to the United States. This number will probably be easily accounted for by the re-grassing and community pasture plans of the P.F.R.A. Wider beef cattle markets are needed if we are going to increase production and still not force down our own and the Ontario farmer's market by supplies exceeding the demand.

Australia balanced her agriculture with sheep. If we went into the sheep business in any large way we would be a direct competitor with Australia and New Zealand. So far we have relied entirely on domestic markets for sheep products. Canadians eat a very small proportion of lamb and mutton compared to other meats, but if they did eat more lamb or mutton they would eat less beef and pork.

It seems to me that there is a possibility that the hog population of the Prairie provinces could be increased quite largely, and could be maintained if some form of feed reserve arrangement were entered into. Our farms have produced hogs which are suitable for export trade, and in our peak year Canada produced within about 90,000,000 pounds of the British quota, which is 280,000,000 pounds a year. That does not mean a very large number of hogs. As Mr. Taggart pointed out, it would not require any immense amount of wheat to produce that number of hogs, approximately 12,000,000 bushels of wheat might be sold as hogs if we filled this quota.

I throw this question out for your consideration. Wouldn't now be a logical time to ask for an increase in our hog quota on the British market? Could we not obtain a part of the quota recently held by Poland?

A very peculiar situation in connection with Britain's imports of meat seems to have developed. She relies almost entirely on the Southern Hemisphere for beef and lamb, and almost entirely on the Northern for her pork and bacon. Canada is the only Empire country which in a large way contributes to the import of bacon. Perhaps now would be a logical time to ask for consideration in that respect. I think that subject will be dealt with by a speaker a little later on.

I would like to state in closing that a report from the Empire Marketing Board of June, 1932, shows that Britain spends more annually for imported hog products than she does for imports of wheat and flour. That to me is an astounding statement, and it seems to me it might have a bearing on our future activity.

In conclusion I would like to say it would appear from our point of view that any change we may make must be made up of small changes on individual farms, changes which perhaps will assist the farmer to stabilize his enterprise, but which could not suitably be covered by blanket policies or major recommendations to agriculturists as a whole. (Applause).

THE CHAIRMAN: Thank you, Mr. Ramsay, for a very practical and interesting paper. It is not by accident that you see such a preponderance of Saskatchewan representatives on the platform this afternoon. It is largely because the subject matter being dealt with here is one that is of vital importance to Saskatchewan, and you can see that the representatives from that province have been giving the matter consideration.

We have here as well Dean Kirk, of the University of Saskatchewan, and we are going to ask Dean Kirk for a few comments on this subject.

DEAN KIRK

MR. CHAIRMAN, LADIES AND GENTLEMEN: I was not expecting to be called on for any remarks at this time, but anticipating that I should say something tonight I scribbled a few notes during the noon hour which I would like to present to you now. I presume I should talk about Mr. Taggart's paper, but I find his logic unassailable, and it is very difficult to make a dent in it: What I have to say does not relate so much exactly to what he was talking about but more to a few general remarks that have occurred to me from time to time as I listened to the many discussions.

I wish to thank Premier Bracken for the invitation to attend this conference and to say, as many others have said, how impressed I am with the nature and quality of the studies which have been presented by the several speakers. Such a programme of papers is made possible only because of a vast amount of careful and painstaking research and I would say we have reason to be gratified that such studies into the fundamental facts of the agricultural situation have progressed as far as they have. Surely it is apparent that the great agricultural interests of the West would be well advised to make provision for the continuation of agricultural research on an even broader scale, because I feel sure that neglect in this respect would not only be the worst possible economy but it would mean inevitably a stagnant, and eventually, a decadent industry.

The papers which we have listened to have dealt in a masterly fashion with the broad aspects and implications of the agricultural situation as it exists today in western Canada. The position of wheat production and marketing, the income of the wheat farmer, the debt situation, monetary policy, and soil-climatic zones, have all received due consideration. Various methods of bringing relief to the wheat farmers of the West have been canvassed. Gradually the trend of discussion is narrowing down to the more specific problems of alternatives to wheat production and a consideration of those things that should be done by way of an internal plan for agriculture as distinct from the great and immediate problem of finding markets for our wheat and of securing some relief for the present critical situation.

It may be inadvisable to run the risk of blurring the stark outlines of the picture which has been painted by discussing, what by contrast, may seem to be minor details, but I submit that some of these lesser matters may turn out, in the long run, to assume very large proportions. Even in the matter of alternative crops, which, individually, give little prospect of affecting the wheat acreage appreciably, it is surely worth while to make every possible adjustment, because if such shifts in the aggregate can reduce the production of wheat even by a million bushels it would be well worth while. As examples of substitute crops one might mention flax and the seed of grasses and legumes, for both of which this country is highly adapted.

I don't wish to prolong the discussion but should like to make observations on two points, both of which have been mentioned and both of which are related to agricultural planning.

The first has to do with maintenance of soil fertility, which was sharply stressed by Dr. Mitchell. This is a factor in cost of production which has not yet been figured out for the West but one which represents a cumulative charge against agriculture that sooner or later must be met. Agricultural history seems to suggest that in sparsely populated countries the neglect of soil fertility either results in soil depletion or becomes a charge on the state. And if agriculture must secure assistance from the state, the most justifiable form of subsidy is surely that which finds its ultimate use and effect in maintaining the fertility of the soil as a national asset for future generations. It seems to me that there is a principle involved here, and it is that principle which I admire in the United States Soil Conservation Programme. I say this without any intimate knowledge of how that programme is administered or how it is applied in practice.

The other point which I would make is in connection with that feature of our production in western Canada which expresses itself in enormously wide seasonal fluctuations in yields of all feed crops. The partial remedy which suggests itself at once is that of reserves—whether it be in the form of crop insurance, seed, hay, pasture or feed grain. It is perhaps trite to say that reserves of seed, roughage and feed grains should be maintained on the farms; but should we not in this matter also recognize a principle of profound importance under the climatic conditions which we now recognize as a characteristic of the Prairie provinces. And if we assign to this matter the importance which I have suggested, would it not be advisable to deal with it more seriously than in the past by making it an integral part of government policy.

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There is every reason to believe that the fluctuation in feed supplies, as well as fluctuation in price, is one of the basic reasons for lack of continuity of supply for hogs, poultry and well finished beef cattle. We know also that the only place to accumulate reserves of feed so that it can be used economically is right on the farms themselves. Is there not then a serious miscarriage in agricultural planning when farmers find it necessary to dispose of coarse grains at 15 cents per bushel instead of storing them on the farm either until prices are more favourable or until a reserve for at least two or three years is established.

These things that I have mentioned may be unimportant in comparison to the major problem before this conference, but it seems to me they are definitely related to it.

Mr. Taggart has raised the question of regrassing parts of our cultivated land. That has some interesting features that might be considered. I fully agree with all that Mr. Taggart has said. I would point out, however, that the sub-marginal land, the poorer part, would naturally and should naturally be the first to be regrassed. These areas are not grouped in large blocks but are actually scattered all over the province. As you will see there are any number of farmers in Saskatchewan with a large amount of land who have areas on their farms which would be better for being regrassed, particularly such areas as are giving trouble with soil drifting. From looking at the wheat markets I would not be surprised if in the next two or three years we are not compelled to take out of cultivation a good deal of land, say 1,000,000 to 3,000,000 acres. That is quite a possibility, and I believe, even if it were unnecessary to reduce wheat acreage, it would be advisable to take out a fair amount of the poorer lands, particularly lands subject to drifting, and gradually such grass lands scattered about on the different farms would provide feed reserves which are now much needed. Eventually, after four or five years, they would have some effect on the supply of livestock. But so far as I can see our future markets for additional livestock are quite as promising as our future markets for surplus wheat.

In connection with the matter of regrassing, if we should assume that within the next two or three years we would want to put down say a million acres to grass, and that is only 1/25th of our wheat acreage, or 1/40th of our cultivated area, where are we going to get the seed? That is something that might be given a little consideration at this time. Fortunately we have a grass, as you all know, that is adapted to the dry areas, and after eight or ten years' experience it would appear to be quite as good as our native grasses, and quite as productive. It is a very productive seeder as well. We have been working since 1921 to get that seed multiplied. The Dominion government, in particular, has been very generous in distributing seed to farmers who were in a position to grow supplies. What has been the result? With all our efforts this is the first year that the price has dropped to a point where the average farmer can afford to purchase that seed. What is the supply? A total of 1,750,000 pounds, of which probably 1,000,000 pounds is available for sale.

If we wanted to sow 1,000,000 acres we would require 10,000,000 pounds of that seed. Possibly by the time we need it we will have 10,000,000 pounds but I don't think so. In the next year or two we will probably reach the peak of production. This is pure assumption, but still I am trying to think a little bit ahead to see where we are going to get our seed supplies from. Next year, with the probability of still lower prices a large number of growers will drop out of seed production. A number of our experienced growers, however, in the northern part will stay in the game, where they grow 400 or 500 pounds per acre. But the trend of production will be downward, and if we should make up our minds that a million acres should be put down to grass, the seed may not be available. A study of this particular matter will probably stand us in good stead. (Applause).

THE CHAIRMAN: I thank you very much, Dean Kirk.

JOHN GRAHAM: MR. CHAIRMAN, LADIES AND GENTLEMEN: I am not a wheat man! I am a livestock man and have been all my life, both in this country and in the Old Country where I was born. Consequently I am a mixed farmer in the true sense of the word. There are one or two things I want to enlarge on a little bit in

connection with what our good friend the minister said. No man can speak as he can speak in connection with this subject, and say so much in so little time, because he is one man in this western country who has the ability to do that, as he has learned it in the hard school of experience.

He speaks entirely for Saskatchewan, and he is a wheat grower. I come from Manitoba where it does not apply in the same way. He tells us that the wheat farmer farms what he likes to do. We all admit that, if we can get that done, but that is often impossible. For instance, I have a good knowledge of my own province here, and some knowledge of Saskatchewan and Alberta, and there is quite a difference between them all. We all know that wheat growing went to such an extreme in the southern part of Saskatchewan—it wasn't the dried out area when he knew it first—that farmers did not even keep a milk cow, did not grow their own barley or oats; they even bought the milk for the house. Lots of these men who use tractors today do not own a horse, and fold up their tent in the fall and go for a holiday.

Take a wheat farmer in Saskatchewan on the Regina plains, the best in the world, with 320 acres of land. How does he find himself? He finds himself to be a wheat farmer, as that pays him best, and it has paid him best for many years. The virgin soil there grew immense crops, so much so that they were glad to see some weeds; the crop grew so heavy they could not harvest it, they wanted something to keep it down. Take this man with the 320 acres, why not let him go into mixed farming? Scientific agriculture says that we should never grow two wheat crops in succession, and that continual wheat growing on land is going to depreciate it, and going to make it grow less and less until it is wheat sick. What is that man going to do when that stage arrives? He has no pasture to grass his cattle, he can't do anything but grow wheat. This opens up the question—it may not apply to the district Mr. Taggart spoke of, because they cannot grow grass or get access to it—of community pastures.

The wheat grower should have a chance to raise 20 or 30 head of cattle on a half section. He has lots of feed for them in the winter time in normal years. Let him send the 20 or 30 to some community pasture. Of course, some people worry about the community pasture and they say that if you send them there they are eaten up with flies and do not get proper forage and come back poorer than when they went away. Well, I happened to be a silent onlooker at an undertaking which took place last year or a couple of years ago when 23,000 head of Saskatchewan cattle came down to the pasture at Brandon Junction, four miles south of Carberry. The Dominion government brought them all, and they paid a very good price when they were sold. These cattle were grassed there until they were in fit shape to be sold. Some of the calves were sold as soon as they were taken off the cows, and the dried cows sold easily because a lot of Ontario farmers wanted that class of cattle. After they all went through this how many head of cattle do you think was short on that venture? Just 13 head.

The Dominion government might assist the provinces in establishing these community pastures, with a supervisor, and a committee from the community, to take in the cattle and look after them the same as they did in the venture south of Carberry. In the fall if the farmers want them home, good and well, let them go back home; if they do not, establish a market right there and sell them on the ground, and let the producer see that he gets every cent in them. This venture looks to me to be something that should be considered very seriously.

I have always wondered since I have been in this country how people can make a success of farming unless they have a certain amount of grass on it, something on which to keep livestock. Some people think of wheat, wheat, wheat as the only thing in the world. We know that we grow the best wheat in the world, but I want to say that we cannot grow all wheat, and livestock is one of the most important activities in our western country, and what we should do is to develop a little more livestock growing on the half section farm.

In Manitoba we have not been subject, except in the extreme southwest corner, to the violent droughts as has Alberta and Saskatchewan. We have had

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our dry years but I have never had a year but what I had feed for my stock, although sometimes I had to buy a little. We have, all over the province of Manitoba, these sub-marginal lands, and lots of them are going back to grass, and the reason for it is this. We have a sandy loam with a preponderance of sand in it. When we first started tilling that soil we thought it was our best. It grew the best wheat, and heavy crops, but today that land is done. Wheat has impoverished it so, and it has blown so much, that the necessary elements have gone out of the soil, and it has gone back to grass. All through the province we have lots of sub-marginal pastures, not too far from our wheat land, and there is no reason in the world why a farmer should grow wheat entirely in Manitoba.

Mr. Taggart referred in his paper to some 3,000,000 bushels of wheat to be fed to pigs. Raise pork and feed wheat. That is all right, but surely to goodness, we will never feed 3,000,000 bushels. I think Mr. Taggart is a little fearful of the situation. But if we feed a certain amount of wheat we will find a market for those hogs, and it will help us out on the surplus.

In conclusion I would like to say something on the subject of our hogs. Some people think we are doing pretty well with our hogs, but do you know that we have not taken the top market price for our hogs in the Old Country as yet? One or two countries are beating us. Why should that be? Just because we have not applied ourselves. By proper feeding, by proper care, and by proper breeding we can bring those hogs up to the top of the British market. Then we will also have a continuity of supply. We have learned the lesson that we cannot turn hogs out on the prairie. We know that when they get to a certain age we must bring them in and feed them all year round, and we can do that as well in the winter as in the summer. (Applause).

MAJOR STRANGE: I would like to ask one brief question. Supposing you were to take out of wheat production 1,000,000 acres in the worst drought area, and you do not attempt to re-seed that to sweet clover or to some other grass, how long would it be before nature would restore grasses on that land sufficiently to warrant the placing of livestock back on it economically, that is to say, to make a profit on it?

DEAN-KIRK: Our observations would lead us to believe that it would take from 15 to 30 years for the natural grasses to come in on that land, depending on a number of factors that is to say, how much of that particular piece of soil was isolated from surrounding grasses, the climatic conditions that produce seed, the blowing of wind, and the natural reseeding process.

MAJOR STRANGE: What would be the growth in the interim?

DEAN KIRK: It goes through a regular stage from the time it is abandoned, through tumble mustard and Russian thistle, artemisia, northern sage bush, and then you see little clumps of grass appearing here and there.

MR. DOYLE: I would like to ask the minister, if we were to shift, or try to shift from grain to hogs, to produce the extra 1,000,000 needed to fill the quota, how those farmers under the present situation of debt and the collection policies of mortgage companies, who take one-third of the crop, no matter what you have under the lease, would be able to keep on the farms at all?

HON. MR. TAGGART: I take it I am expected to answer that question, which I think is probably unanswerable. The difficulty raised by this question apparently is this, that when a farmer grows a certain volume of crops, say, wheat, oats or barley, if his contract requires him to deliver one-third of that crop to the other party to the contract, then obviously he can't keep that one-third to feed to hogs, and probably if he does deliver up that one-third he will have to deliver the other two-thirds to realize enough cash to pay his immediate expenses. I think everyone can see the logic of that position, but, nevertheless there are large areas where hogs are grown in considerable numbers and the men who raise those hogs do save enough feed to feed them, and they probably realize more off the crops six or eight months later than if they sold the grain directly. The situation described in the question does not apply to as many farmers in the present hog producing areas as it would if we shifted to the areas where hogs are not now fed to any

extent. I would suggest if this shift were desirable in the interests of the farmer we ought to be able to induce the creditor to wait until the hogs were sold before he got his part.

MR. BROCKINGTON: You may have raised this point in the first two minutes of your paper, but unfortunately I was not here. Even if you did I do not think it will do any harm to reiterate the point. Leaving aside the minor adjustment in acreage, if there was a really significant shift in the economy of western agriculture so that the western farmer would be forced to raise crops which are now perhaps raised in larger proportion by the eastern farmer, in your opinion would such a change in the basic agricultural economy of western Canada cause any disaster to the eastern farmer? I emphasized that question because unfortunately some people have, in the sectionalism rife in eastern Canada sought to obtain an expression of objection on the part of the eastern agriculturists to the necessary support now being given by the government to western agriculturists. Can you tell me if any significant change in the basic economy of western Canada would affect adversely eastern agriculture?

HON. MR. TAGGART: I did mention that point although perhaps I did not emphasize it particularly. I think I mentioned the total crop area in Canada is 58 million acres, 40 million of which is in the three Prairie provinces. The large share of the acreage of the three Prairie provinces is in cereal crops. If it became necessary for any big proportion of the 40,000,000 acres to be changed into say hay crops or coarse grains, which in turn produced livestock, you can see at once the impact of the 40,000,000 acres on the 18,000,000 acres. Even though the 18,000,000 acres may produce twice as much hay per acre, a large shift in the three Prairie provinces would have a terrific effect on the economy of the rest of the country. If the shift were very large the effect would be absolutely disastrous on the farmers of the other provinces. I do not think the disaster to the fruit grower or to the highly specialized grower would be much less than to the dairyman or the man who raises beef cattle. That is why I think it is essential in the interests of the entire country that our problem be considered as a national problem, and some plan should be designed to protect the agriculture of the whole country and not of any particular region alone. I think, too, if this reasoning is right, since the farm population is roughly half the total population, the result of a failure to deal adequately with our problem here will have a disastrous result on the whole economy of the country, because you can't regulate the business enterprises of half the people without seriously damaging the enterprises of the other half. It is not only a question, in my judgment, of the inter-relationship of agriculture of the different regions, but it is also a fact that if there is a large part of our agricultural economy depressed or ruined, it must affect the whole industry of the country. (Applause.)

MR. SUTHERLAND: MR. CHAIRMAN, LADIES AND GENTLEMEN: I wish to say that I followed with a great deal of interest the splendid presentation of the Hon. Mr. Taggart, because he was dealing with the question which I myself am very personally interested in, as I happen to live in the very centre of the drought area of Alberta, where we have had three crops since 1928. I started 29 years ago with an original homestead, and I am now trying to do something with 1,200 or 1,400 acres in the drought area. I am going to venture a word or two from the standpoint of actual experience and practical reality insofar as the drought area is concerned. The first observation I want to make, confined entirely to the Province of Alberta, is that we cannot take advantage, insofar as livestock growing is concerned, to the extent pointed out by the president of the Canadian Livestock Union, because we have no community pastures as such in Alberta.

The next observation I want to make is that the whole drought area problem, and I think this applies to Saskatchewan as well, must be considered in the light of a national problem, not as a provincial problem. We have in Alberta over 8,000,000 acres of land in which all forms of municipal administration have vanished, and which is administered by the Special Areas Board. We have had a great deal of depopulation there. We have an empire in extent, from which possibly three-quarters of the people have left to try their fortunes elsewhere. Those that are remaining are trying to make a living in every possible way. My experience is that when I

ventured into stock growing, as I always do, because my own proposition is a kind of mixed farming proposition, I pretty nearly lost as much money in stock as I did in wheat. So that is not the solution. We will have to take a view of this problem in a uniform way, which can only be achieved through national action, because as I intimated a moment ago it is too big for any province to handle, and furthermore, you must have uniformity throughout your whole drought area. In that manner only can it be attacked.

Problems of soil drifting are menaces which must be attacked from a national point of view. The problem of furnishing a proper water supply, which is coincidental to any programme of stock raising, also must be dealt with from a national point of view. Someone has already referred to this very definite fact that when there is a normal crop in most areas of western Canada with a normal supply of rainfall, usually in the dry country we do not have any rainfall, but in the years when the rainfall is more or less abundant over the whole country, then we produce a bumper crop, and right there is when we in the dry area become a disturbing factor to the whole national structure, and there is where the national point of view must come in again.

Coming right home to the area of Alberta in which I am most directly interested, from Lloydminster south to the American boundary, possibly 90 to 100 miles wide, for that country in my judgment there is only one permanent solution, and again that must be national, and that permanent solution lies in effective control of the waters of the eastern slope of the Rocky Mountains now flowing uselessly to the sea, and impounding those waters. That can only be done through national financing. That would give to the people in that area, who are the best people who ever broke sod on the North American continent, an opportunity to make a home on an acceptable basis.

The impounding of that water so that each man in the community can have a certain section of wheat land, and access to thousands of the best grazing land in the world, insofar as quality is concerned, will be the basis by which you can save that community. Further than that you can take away its disturbing effect. Its wheat growing will be more uniform, and it will afford a permanent civilization to the community which through soil drifting and weeds has rapidly become a menace to the rest of the province. (Applause).

THE CHAIRMAN: I am sure we are all very glad to hear from Mr. Sutherland, the representative of the United Farmers of Alberta.

In connection with the next paper, we see that as well as the livestock problem there is the coarse grain problem, closely related to the wheat problem. They are inter-related because the coarse grain acreage has a direct connection with livestock as with wheat. For the purpose of introducing this discussion we have Mr. A. T. Elders, of the Canada Malting Company. Mr. Elders at this time is going to speak to you on "The Barley Industry of Western Canada." Mr. Elders.

THE BARLEY INDUSTRY OF WESTERN CANADA

by

A. T. ELDERS

CANADA MALTING COMPANY LIMITED, WINNIPEG

The barley industry of western Canada has developed from a few acres in 1813, grown on the banks of the Red River by the Selkirk Settlers, to the present annual acreage of about three million acres grown in the three western provinces. The annual production ranges from 50 million to 100 million bushels. The general expansion of the industry may be traced through three general periods. First the

pioneer period from 1813 to 1910, and since that time through two major periods of expansion. During the war, from 1914 to 1918, barley acreage doubled, due presumably to the call for increased production at that time. Between 1920 and 1929 the acreage devoted to barley again doubled, reaching a peak of 5,114,000 acres. Since 1929 the acreage has receded and for the last few years the annual average acreage in western Canada has been about three million acres.

During the pioneer period barley was grown chiefly as a feed for livestock. There are records of poor barley crops leading to shortage of feed and the resulting disaster to both the human and livestock populations. There are also records of abundant crops during this time, such as that described when Governor Ramsey of Minnesota visited the Red River Settlement in 1851; upon arriving home Governor Ramsey stated: "The Settlers were raising so much and had such restricted markets that they were, metaphorically speaking, smothering in their own fat."

The first shipment of wheat exported out of western Canada left via Red River steamer in 1876, but so far the writer has not been able to obtain a record of when barley was first exported from western Canada. It would probably be about the time the transcontinental railway went through. The great expansion in the export barley trade took place in the post-war era, during which time Germany, Great Britain, Holland and Belgium consistently purchased large quantities of Canadian barley. The peak export year would be 1928-29, when Canada exported some 40 million bushels.

From the high point in 1929 the barley acreage decreased about two million acres, with a corresponding decrease in yield. Drought, rust and grasshoppers lowered yields, and since 1930 the western provinces have been producing some 40 to 70 million bushels annually (see Figures 1 and 2). At the same time there has been generally a good demand for our barley with very satisfactory prices, as a result of which there are years when up to 50 per cent of the western crop has been marketed. The demand in recent years came chiefly from Great Britain and the United States. The United States market has been mainly for malting purposes and was due to a shortage of barley in that country.

At the present time barley is grown in western Canada, for feeding to livestock on the farm on which it is grown, and for marketing as a cash crop. The higher quality of barley that is marketed of suitable varieties is segregated for the malting market. The lower quality is sold for feed. For the past ten years roughly two-thirds of the barley in western Canada was fed on the farms on which it was produced, and one-third was marketed. The percentage that enters the avenues of commerce fluctuates to some extent with the conditions of the market. In years when grain prices are high and livestock prices relatively low there is an increase in the percentage of the crop entering commercial channels. In years when the price of barley is low as compared to the price of livestock, the percentage of barley marketed as a cash crop decreases.

Due to the great variation in production from year to year it would be almost impossible to plan or to say what market conditions will be in the future. There seems to be no such thing as a normal production. Each year brings a new crop with resulting market conditions. Similar factors which cause our crop to vary in yield and quality, influence crops in importing countries as well as in the other exporting countries, which results in a great variation in demand from year to year. This makes it almost an impossibility to say anything definite about future markets as the picture changes from year to year, indeed from day to day. In a general discussion they can best be discussed under the headings (1) Markets for Malting and Milling Barley. (2) The Market for Feed Barley. The writer is more familiar with the market for malting barley by virtue of being employed with this section of the trade. Any views contained in this paper on export and feed markets are gathered from the writings of others connected with these phases of the business and from the Marketing Section of the National Barley Committee.

THE MARKET FOR CANADIAN MALTING BARLEY

The market for Canadian Malting Barley can best be discussed under the following three heads. (1) Domestic, (2) British, (3) United States market.

DOMESTIC MARKET

Malting in eastern Canada must have been carried out by the very early settlers. In a mimeographed circular written by F. L. Dickenson, he mentions that around 1840 to 1844 there were 147 distilleries and 90 breweries in Upper Canada and 36 distilleries and 30 breweries in Lower Canada. In western Canada, E. L. Drewry started the first malt house west of the Great Lakes in 1878. This was followed shortly with one erected by Patrick Shea.

About the beginning of the 20th century pneumatic air conditioned methods of malting were being introduced. This tended to centralize the malting industry and at present the bulk of the malting is carried out in five large malt houses; The Canada Malting Company, Limited have houses at Montreal, Toronto, Winnipeg and Calgary; the Dominion Malting Company, Limited have a single plant at Winnipeg. These plants use in excess of six and one-half million bushels of malting barley annually.

It has been said that Canada produces the highest quality of wheat in the world, but the lowest quality of barley. A survey of barley production in western Canada indicates that we have made some rapid strides in improving the quality of malting barley, which has been of value in having supplies available for not only the domestic market, but for the United States and for certain sections of the trade in the British market.

During the period 1880 to 1916 grain production had been progressing in leaps and bounds in western Canada, but in this historic development wheat was the goal of every settler, barley finding a place principally as a sort of scavenger crop to be resorted to only when fertility showed signs of depletion, and weeds commenced to get the upper hand. Under such circumstances it naturally followed that only an insignificant proportion could qualify for a classification higher than feed.

This was the barley situation as recently as 15 years ago and the problem of effecting a practical improvement in part of the crop seemed worthy of some serious attention. Hence it was perhaps logical that the initiative in a campaign for barley improvements should come from the largest domestic purchasers of malting barley.

After consulting plant breeders and research workers in agronomy of the various Agricultural Colleges, Departments of Agriculture and Experimental Farms, it was decided to endeavour to determine which of the varieties of barley were best suited for malting purposes, and, with this in view, Canada Malting Company Limited, in 1924, undertook the testing, for malting quality, of innumerable samples representing all known varieties of barley as grown in many localities throughout western Canada. The results of these tests determined that the O.A.C. 21 variety was the most attractive from a malting standpoint, and it is now taken as the standard in the official grades.

Steps were taken to build up a supply of pure seed of this variety. This was accomplished in various ways over a period of about five years from 1924 to 1928 inclusive, during which time stocks of registered seed barley, sealed in the sack in Canada were increased from 1,865 bushels to 17,781 bushels, and the acreage of barley producing registered crops increased from 372 acres in 1923 to 3,121 acres in 1929.

This very substantial development was accomplished by bonusing certain units of registered seed-growers in favoured localities, and by purchasing their surplus seed and placing it for reproduction on contract in territories where required, and in turn taking the multiplied product and selling it at cost, or less, for seed purposes in selected districts. In addition, individual growers of registered seed barley were encouraged by special contract arrangements whereby a substantial premium was guaranteed at seeding time for their crops of the same year. Lots of registered

seed secured in this manner were also multiplied on contract, and the resulting product redistributed as No. 1 Commercial Seed. This programme soon grew to the point where single plants of the company were distributing as much as 50,000 bushels each spring of No. 1 Commercial O.A.C. 21 seed barley grown from registered seed.

In 1929 the barley grades were revised, which segregated suitable varieties into the Malting Grades and unsuitable types into the Feed Grades. The National Barley Committee was inaugurated soon after with a view to co-ordinating improvement work in barley; line elevator companies, maltsters and governments alike have made a united effort to produce better barleys. The crop testing plan together with a malting barley seed test, in which all line elevator companies cooperated, has had a great influence in a steady increase in the percentage of barley falling into the malting grades.

If the question were asked as to the next great step in improving the quality, the answer no doubt would be "The production of a rust-and drought resistant variety with malting quality of O.A.C. 21."

MARKET FOR TWO-ROW BARLEYS

There is a market for a limited amount of two-row barley for the manufacture of pot and pearl barley and for the making of specialized flavouring malt and roasted barley. The chief characteristic of barley for pearling is that it has a fairly large grain, white aleurone and free from foreign matter.

THE BRITISH MARKET FOR CANADIAN MALTING BARLEY

The malting industry of Great Britain serves three distinct trades, the brewing industry, the distilling industry, and the malt extract industry. Each section of the industry and even different companies making similar products often demand different and special types of barley.

BREWING INDUSTRY

In general, the British brewer requires malt from a large plump, starchy barley, low in protein. To provide drainage in the mash tun there is also used a portion of coarse, hulled, Mediterranean six-row, which is usually imported from California. The two-row barleys generally used are grown chiefly in certain sections of England and in Czechoslovakia and other Central European countries.

Two-row barleys grown in Canada have been compared with the two-row barleys used in Great Britain and show the Canadian barleys to be a little high in protein and usually not so mellow or so plump. Canadian investigators report that Canadian two-row barleys would not be suitable for the British trade. Sample shipments of the Mediterranean six-row barleys, Trebi and Barks, grown in western Canada proved unsatisfactory to the British trade. Attempts to grow California Bay Brewing in western Canada so far have not met with any success.

DISTILLING AND MALT EXTRACT TRADE

The distilling trade is concerned chiefly with the manufacture of grain alcohol and malt whiskey. The malt extract trade with pharmaceutical products, diastatic malt for the textile industry, malt extract and malt flour for the baking industry.

The malt extract and grain distilling trades both require a malting barley high in diastatic power. Preliminary malting tests made at the University of Manitoba and reported in the Journal of the Institute of Brewing, June 1933, indicated that O.A.C. 21, grown in western Canada, is admirably suited to the British distilling and malt extract trade.

It is necessary, however, to pay some attention to the quality of this barley that is delivered. On several occasions Canadian representatives investigating the barley trade overseas have reported complaints regarding the soundness and

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germinating qualities of Canadian barleys purchased by British firms. One investigator advised the writer that previous to 1926 Canada supplied the bulk of barleys used in Great Britain for the manufacture of diastatic malts. Due to artificial drying of some tough barleys at high heats, the germination of certain shipments were affected, and this had led to the use of barleys from Rumania. We are gradually regaining some of this trade and the new grades will help to prevent a recurrence of the above trouble.

Another feature worth mentioning in this regard is the necessity of segregating only suitable varieties; each variety has certain characteristics, for example, Regal barley shows only approximately slightly over half the diastatic content of the Standard O.A.C. 21. The testing of varieties by the malting laboratory of the National Research Council and the admission of only suitable varieties to the grades intended for the British market should be of inestimable value in maintaining and expanding this trade which is estimated to have been as large as five million bushels annually.

THE UNITED STATES MARKET FOR CANADIAN MALTING BARLEY

During the ten years preceding 1890, the United States imported an average of 10 million bushels of barley per year, practically all of which was raised in Ontario. This trade was obliterated with the advent of the McKinley tariff in 1890, when the duty was raised from 10 cents a bushel to 30 cents a bushel. From 1890 to 1934 the amount of Canadian barley imported by the United States was so small that it was not recorded separately on official records.

In 1933 the repeal of the 18th Amendment stimulated the market for malt and malting barley. At the present time the requirements of the United States malting trade are estimated in the neighbourhood of 75 million bushels. Under satisfactory crop conditions the United States produce sufficient barley for their own requirements, but in years of short crops they purchase varying amounts from Canada. In 1933 the United States crop dropped to approximately 153 million bushels, approximately half as much as in 1932; in 1934 it suffered a further reduction to approximately 116 million bushels; their crop in 1935 was satisfactory, but again in 1936 the crop suffered and was about 145 million bushels.

Very little Canadian barley is used in the United States for purposes other than malting. In years of shortage, however, such as 1934 and 1936, the United States have paid premiums as high as 30 cents per bushel to obtain Canadian barleys for malting purposes. LeRoy Godfrey, writing in the C.S.T.A. Review of December, 1936, writes in this regard as follows: "The National Barley Committee has advocated the growing of six-rowed Manchurian types of barley. It is fortunate for Canada that this has been done as Canada thus had the goods that importers wanted, when the demand first came for malt in 1933, followed with a demand for malting barley in 1934 and 1936."

The United States barley crops of 1937 and 1938 were reasonably good, resulting in a very small import of barley into that country during the past two years.

The following table shows exports of Canadian barley to the United States:

1933-34	223,059 bushels
1934-35	9,296,245 "
1935-36	878,540 "
1936-37	15,082,377 "
1937-38	703,732 "

FEED BARLEYS

The market for feed barleys can best be discussed under (1) Domestic, (2) Export.

Domestic Markets

A great deal of study and investigational work has been carried out in recent years by the feeding and marketing sections of the National Barley Committee looking into the possibilities of supplying eastern feed markets and directed against

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the importation of foreign corn. A survey of barley acreage by provinces shows that Nova Scotia, New Brunswick, Prince Edward Island, Quebec, Ontario and British Columbia do not grow sufficient feed grains to supply the local demand. Each year these sections have imported foreign corn.

Foreign corn imports into Canada for the past eleven years are as follows:

1927	16,205,870	1933	5,510,510
1928	13,960,530	1934	8,312,900
1929	15,503,130	1935	7,155,950
1930	11,423,810	1936	16,540,100
1931	9,864,100	1937	17,311,400
1932	7,387,340		

These statistics show an annual importation of five and one-half to seventeen million bushels of corn annually.

Mr. P. F. Bredt in discussing this situation writes as follows in C.S.T.A. Review, December, 1936:

"It has been the hope of western Canada that ways and means would be found whereby surplus barley and other feed grains from the prairie could be utilized by the livestock industry of eastern Canada to the mutual advantage of both East and West. Substantial progress was made some years ago but shortage of supplies in the last few years has naturally retarded these efforts. Domestic freight rates make the cost of forwarding western feeds to the livestock feeders of eastern Canada relatively high, and while there has been some improvement in the freight rate structure, the matter of distribution to feeders in the East who buy their supplies in relatively small quantities, still presents a problem.

"The objection which the eastern feeders have always had against our feed barleys—high weed seed content—will likely be corrected with the coming into effect of new barley grades, possibly next season. These will specify that even the feed barley grades must be practically free from the small black seeds, which, it has proven by experiment, are not only useless but even injurious in some cases. This should prove to be added incentive, when sufficient supplies are available for eastern feeders to use western barley rather than corn."

Results of recent feeding experiments on the feeding value of western Canadian barley for bacon hogs were published recently as follows:

(1) As measured by live weight gains and feed efficiency No. 3 C.W. barley stands first in value for bacon hog feeding, followed in order by corn, corn and oats, barley and oats, and oats. Oat fed pigs required three weeks longer feeding, and eight per cent more feed to reach market weight than did barley fed pigs.

(2) No evidence of greater palatability of corn over barley was found, as indicated by daily feed intake under a plan of full feeding.

(3) In so far as carcass score is a reliable criterion, barley fed hogs, yield as good, if not better carcasses than those on heavy corn rations. A part of their excellence appears to lie in a tendency for a greater quantity and proportion of lean in the bacon rasher to be produced on the barley ration.

(4) The inclusion of oats was detrimental to the value of barley as indicated by the live hog response, though in carcass excellence the barley and oat fed group fell below barley but above corn.

Wide publicity of the above results in farm and daily press and by extension and agricultural workers in eastern Canada should result in increased use of western feed barleys by eastern feeders.

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The Export Market

As mentioned in the early part of this paper the peak export business would be in 1928-29 when Canada exported some 40 million bushels of barley. Since that time our export trade overseas has ranged between two and 20 million bushels annually. This sharp reduction is the result to some extent of the lowered production of barley since 1929 and also due to the fact that the United States had very short crops during this time and offered prices far out of line with overseas prices, and also due to restriction of imports chiefly through high tariffs particularly in Germany.

In general, the export market is possibly best summed up by H. Gauer in an article, entitled "The European Market for Barley," published in the December issue of the C.S.T.A. Review, as follows:

"Barley since ancient days has been one of the world's most important cereals. Although quite commonly grown, it does not, however, enter into the world's trade to anything like the same extent as wheat. There is a greater fluctuation in the export and import of this cereal due to various reasons. Its production is more influenced by the seasons than is wheat, so that there is a greater variation in supply from year to year. It is grown in most countries principally for feeding purposes, and the consumption varies considerably depending on the price levels of hogs and of the substitute feeds, of which there are many, but chiefly corn. The variation in exports and imports is clearly seen in the accompanying statistical statements."

"In addition to its use for feeding, barley is largely used for brewing, distilling, manufacture of malt extracts, pot and pearl barley. For these purposes, substitutes are not desired, high prices if necessary being paid for desirable qualities of the needed supplies. In some countries barley meal is used for bread purposes, in most cases as a substitute for wheat when the latter is scarce or high in price. At times, barley has been roasted and used as a substitute for coffee.

"Europe produces much the largest percentage of the world's barley crop; at the same time it does nearly all of the importing. Excluding two years in the past ten, imports by other countries have averaged under four million bushels per year. This clearly indicates the importance of the European market for barley.

"During the last ten years, European imports have run from a low of 96 million to a high of 185 million, the result of influences already indicated and also of the effects of political action in some of the countries, for economic or other reasons.

"The largest and most consistent importers have been but four, Great Britain, Germany, Holland and Belgium. Very little Canadian barley has been sold in Europe to other than these four countries. With the exception of the occasional year when the United States may have had a very short crop, these four countries are Canada's principal markets. Of these countries, Great Britain in recent years has been our best market, one important reason for this being the preference which we have enjoyed over non-Empire countries since the Ottawa pact, this amounting to an advantage of ten per cent of the price. British importations have been chiefly for feed purposes although importations of malting varieties have also been considerable, principally for the distilling and malt extract trades. The brewers prefer malt from home grown barley which is generally of the two-rowed variety, and as very little of our barley is of this variety, any necessary importations must of necessity come from other countries. We have here nevertheless a market that could generally take all of our surplus, providing that our quality is right and our prices are competitive. For the feed trade, our grain needs but to be reasonably clean; if, however, we are to supply the distilling and malting trade, our barley must not only be

thoroughly clean but must also be true to variety and properly threshed; the extra premium obtainable for such quality will invariably repay our producers for the extra care needed to produce the desired article. The British market is well worth fostering.

"Holland, Belgium and Germany also grow most of their malting barleys and import chiefly for feeding purposes; the same considerations as to quality and price apply. As we do not enjoy a tariff preference, competitive conditions for us are much more severe; our exports to these countries are therefore more spasmodic and largely confined to years when we have enjoyed large crops which have had to be sold at moderate prices. Trade arrangements of course play a considerable part in the development of these markets and our lower exports in recent years to some of these countries can largely be attributed to lack of these.

"The appended statistical reports (Tables 1 and 2) will show the world exports of barley by countries during the same time. This shows the extent of the world's trade in this commodity and the considerable variation that has existed. It will be noticed that Europe ordinarily is almost an exclusive importer. In addition to these reports, a report is also appended showing the corn importations (Table 3) by calendar years over a period of ten years, and with the exception of the occasional year when the United States has been a considerable buyer, these importations have also largely been confined to European countries. As this corn is used chiefly for feeding purposes in these countries, it is clearly shown the extent of the available markets for feed in that part of the world and the possibility of extending markets for feeding barley, providing there is a sufficient volume and that prices are competitive.

"In conclusion, let me again emphasize the importance of growing good barley that is clean and true to variety, if our markets are to be retained and expanded and best prices realized."

BARLEY GRADES

In maintaining the present markets and in the development of potential markets barley must be segregated according to the requirements of the various industries in the different countries. The National Barley Committee in 1935 undertook a study of these markets in an effort to determine the requirements and recommend a more suitable system of grades. The committee found that barley is used for three distinct purposes, i.e. malting, milling and feeding. The requirements of the malting market also vary according to the purpose for which the malt is to be used. In the brewing industry in Canada and the United States the six-row barley of the Manchurian type is demanded. In this group O.A.C. No. 21 is considered the most desirable variety. In the United Kingdom a two-row barley is used for the main part of the brew and to blend with this, portions up to 25 per cent of six-row barley of the Mediterranean type is used. Because of the high quality of two-row barley that can be secured from the farmers in England and in some of the central European countries, it would seem that this is a market that Canada could not hope to enter. The same may be said of the Mediterranean type of barley. Much of this comes from California and again it is a type that due to climatic conditions cannot be grown in Canada. In the distilling and malt extract trade, both in Canada and foreign countries, the demand is for a six-row Manchurian barley. The type of barley produced in Canada is par excellence for this market. The milling trade requires a two-row barley with a white aleurone and this would appear to be the only place where Canadian barley of this type can be used to advantage.

In all of these industries the use of suitable varieties, pure as to type and free from other kinds of grain and weed seeds, is very essential. Freedom from unsound kernels caused by disease, weather or mechanical injury is also most important. In the malting industry germination is also a necessary qualification.

MARKETS FOR WESTERN FARM PRODUCTS

To provide for these industries the National Barley Committee have recommended that the grades be amended to give classes of barley suitable for both the home market and the export market. No. 1 C.W. six-row and No. 2 C.W. six-row have been defined to suit the Canadian and American maltsters. No. 3 C.W. six-row has been outlined to suit the British distilling and malt extract market. No. 1 C.W. and No. 2 C.W. two-row grades have been defined to suit the milling trade both in Canada and abroad. (See appendix.)

In the feeding industry barley is used largely for the finishing of bacon hogs. This market does not indicate the advantage of any one variety or type over another, but it must be free from weed seeds, which are not only useless but often injurious. While admixtures of barley with other grains may be used in making up rations, feeders insist that they would like to buy pure barley and make their own mixtures. To provide for this trade, both in Canada and abroad, particularly in the United Kingdom, No. 1 and No. 2 feed have been defined. These must be of good weight per measured bushel, indicating the minimum of hull or fibrous matter, tolerably free from wild oats or other grains which increase the fibre content and free of all small weed seeds which might be injurious or reduce the palatability of the feed. The No. 3 feed has been defined to take care of all low grade barley which may be used because of the price. The definitions for these grades, as recommended by the National Barley Committee, are appended.

Up to the present time the above recommendations have not been adopted but it is expected they will come up for consideration some time in the near future.

SUMMARY

- (1) In conclusion, two-thirds of the barley crop of western Canada is fed on the farms on which it is grown. One-third enters the avenues of commerce.
- (2) The local malting market requires in excess of 6½ million bushels annually.
- (3) The eastern feed market is being developed and feeding trials show barley to be superior to corn as a feed for hogs. This should be useful in an attempt to replace 5½ to 17 million bushels of corn at present imported.
- (4) The United States market is for malting barley when a short crop occurs in that country.
- (5) Great Britain promises the best opportunity of overseas markets due to ten per cent preference in price of barley. Canadian malting grades are suitable for their distilling and malt extract trades. It may be advisable to demonstrate the superiority of Canadian barley over corn as a feed for hogs in Great Britain to partially replace the 120 million bushels of corn imported into Great Britain.
- (6) Tariffs and trade restrictions are limiting the market for Canadian barley in European countries, particularly Germany.

A VOICE: Isn't it true that a good deal of the export trade in barley, both for malting and feed, has been lost through the mixture of dirt and weed seeds in that barley? In 1928 when the Canadian National Farmers' Expedition went over to the Old Country they were told in both Scotland and Denmark that as long as we loaded our feed barley with dirt they were through with us.

MR. ELDERS: Undoubtedly delivering dirty barley would be a contributing factor, one that would be worth paying more attention to than we have. But there are other reasons which we will refer to in the paper and which will give you some idea as to where our markets have gone.

Figure 1

ACREAGE OF BARLEY IN MANITOBA, SASKATCHEWAN
ALBERTA AND PRAIRIE PROVINCES

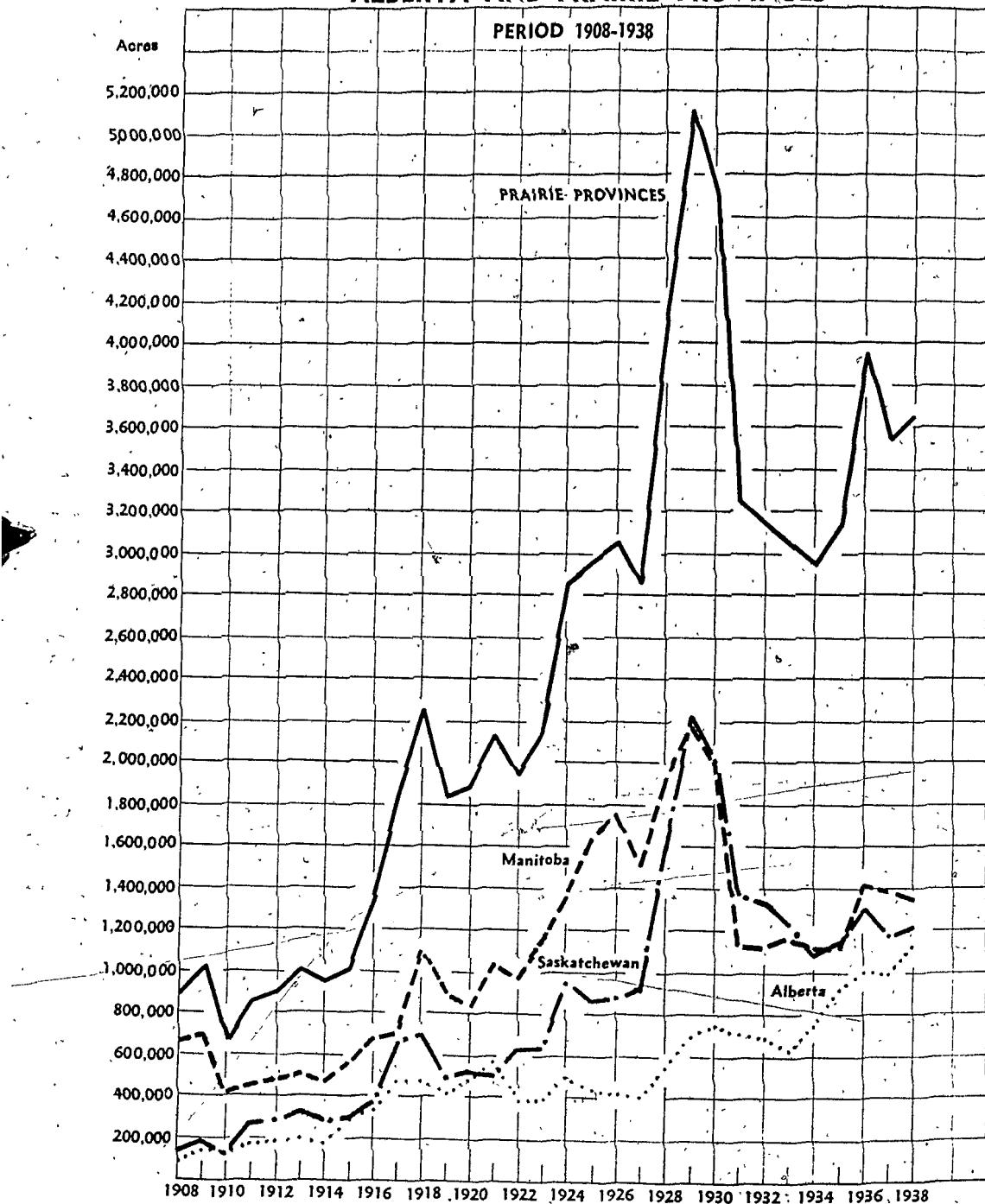
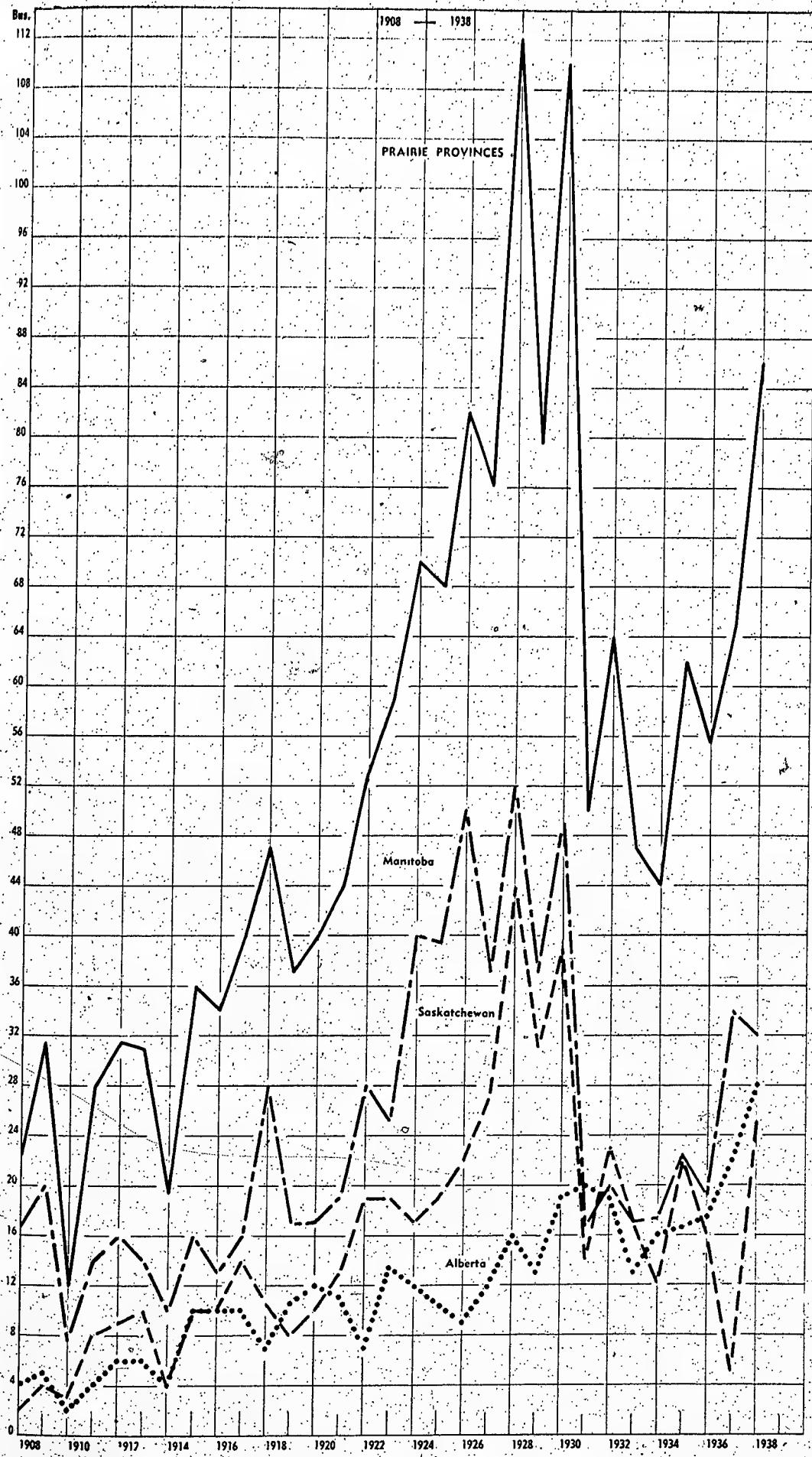
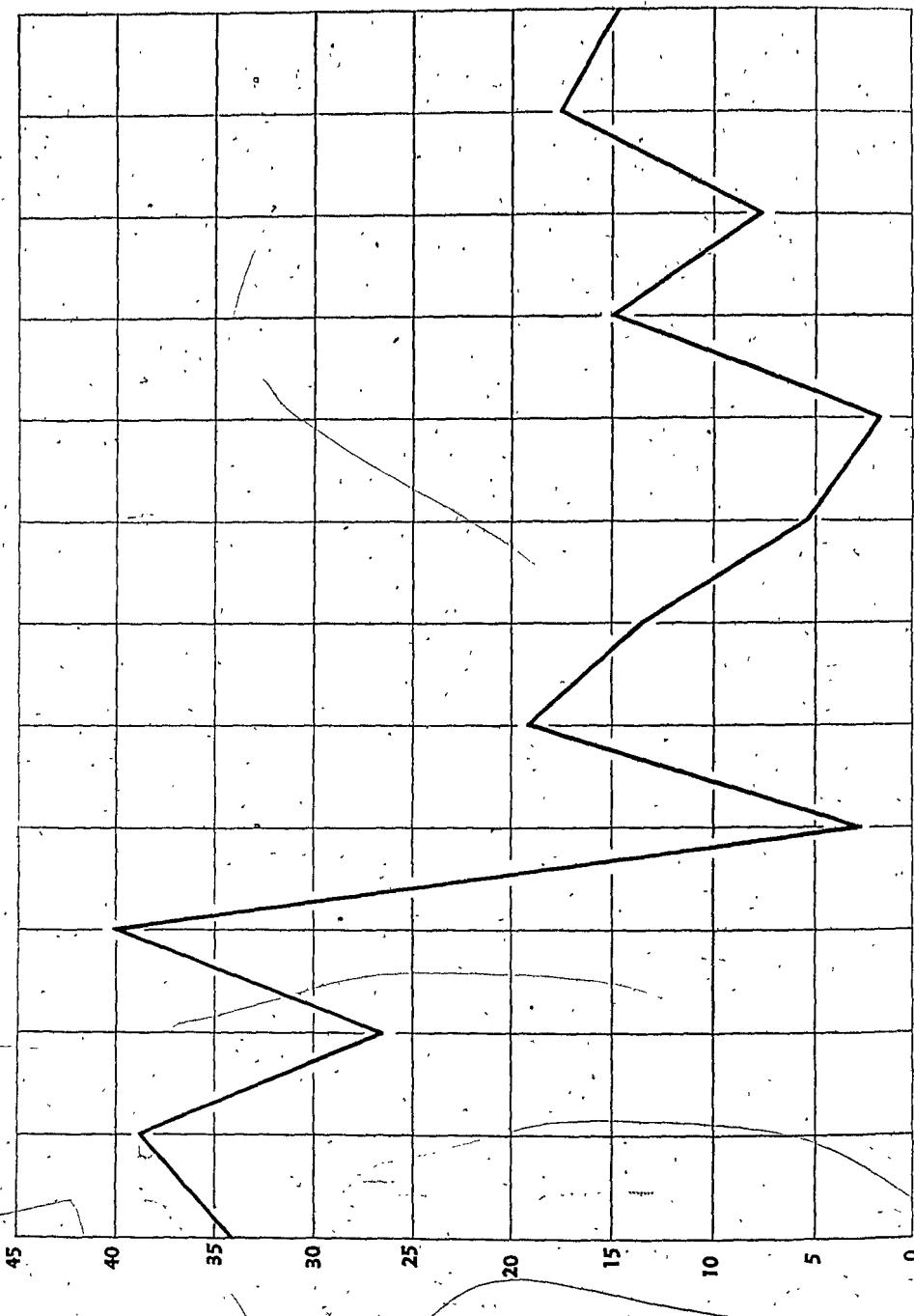


FIGURE 2—BARLEY PRODUCTION—MANITOBA, SASKATCHEWAN, ALBERTA, AND PRAIRIE PROVINCES



CANADIAN EXPORTS OF BARLEY, 1925-26 TO 1937-38

BUSHELS
Million



1925/26 1926/27 1927/28 1928/29 1929/30 1930/31 1931/32 1932/33 1933/34 1934/35 1935/36 1936/37 1937/38

TABLE 1—EXPORTS OF BARLEY (000 Omitted)

FROM	1937-38	1936-37	1935-36	1934-35	1933-34	1932-33	1931-32	1930-31	1929-30	1928-29	1927-28
Algeria	962	2,907	1,644	2,463	2,320	320	880	2,640	4,320	5,760	6,320
Argentina	10,055	14,845	9,209	20,113	23,200	17,520	12,960	11,440	5,120	9,040	10,320
Canada	14,744	17,556	7,675	15,056	1,600	5,200	12,960	18,480	2,480	38,560	25,360
India	991	1,374	83	813			1,360	640	80	720	8,000
Tunisia	1,728	430	3,472	822	160	4,480	1,680	480	5,280	7,440	1,840
U.S.A.	18,223	4,859	9,815	4,441	5,040	8,800	5,040	10,000	17,360	59,040	34,800
Other Ex-Eur.	8,096	18,367	12,462	18,702	12,000	13,600	24,800	10,240	9,200	17,600	14,720
Balkans	11,452	30,328	8,567	9,866	30,800	23,920	32,640	70,720	90,480	20,400	27,920
Belgium	1,193	1,586	951	946	1,320	2,800	3,360	2,160	320	160	
Czecho-Slovakia	2,102	2,423	1,676	2,375	2,240	7,040	4,240	6,000	5,040	3,520	7,040
Denmark	6,969	3,542	3,211	2,912	2,000	960	960	2,480	2,480	2,960	3,120
France	11	12	...	5	160	240	160	240	880	640	3,120
Germany-Austria	5	3	...	5	...	...	80	80	160	2,240	400
Holland	1,411	976	446	404	80	320	560	1,280	960	1,040	720
Hungary	355	915	588	193	2,160	2,960	80	1,120	4,560	1,040	2,080
Poland	9,594	13,212	16,099	14,960	6,960	7,040	6,240	5,440	11,120	8,480	3,040
Russia	13,338	999	29,428	7,643	21,040	15,360	35,600	46,800	29,200	...	240
Sweden	3	3	?	707	399	80	400	160	80	720	560
Other Europe	628	248									
Not Reported previous to 1936-37:											
Iraq		8,646	14,519								
Iran	581	1,020									
Manchukuo	42	50									
Turkey	5,930	3,068									
Chosen	8	28									
Palestine	121	228									
TOTAL	117,228	133,498	106,033	102,108	111,160	110,960	143,760	190,720	191,920	177,360	150,560

(* Included in Other Europe.)

IMPORTS OF BARLEY INTO THE PRINCIPAL IMPORTING COUNTRIES, 1926-1937

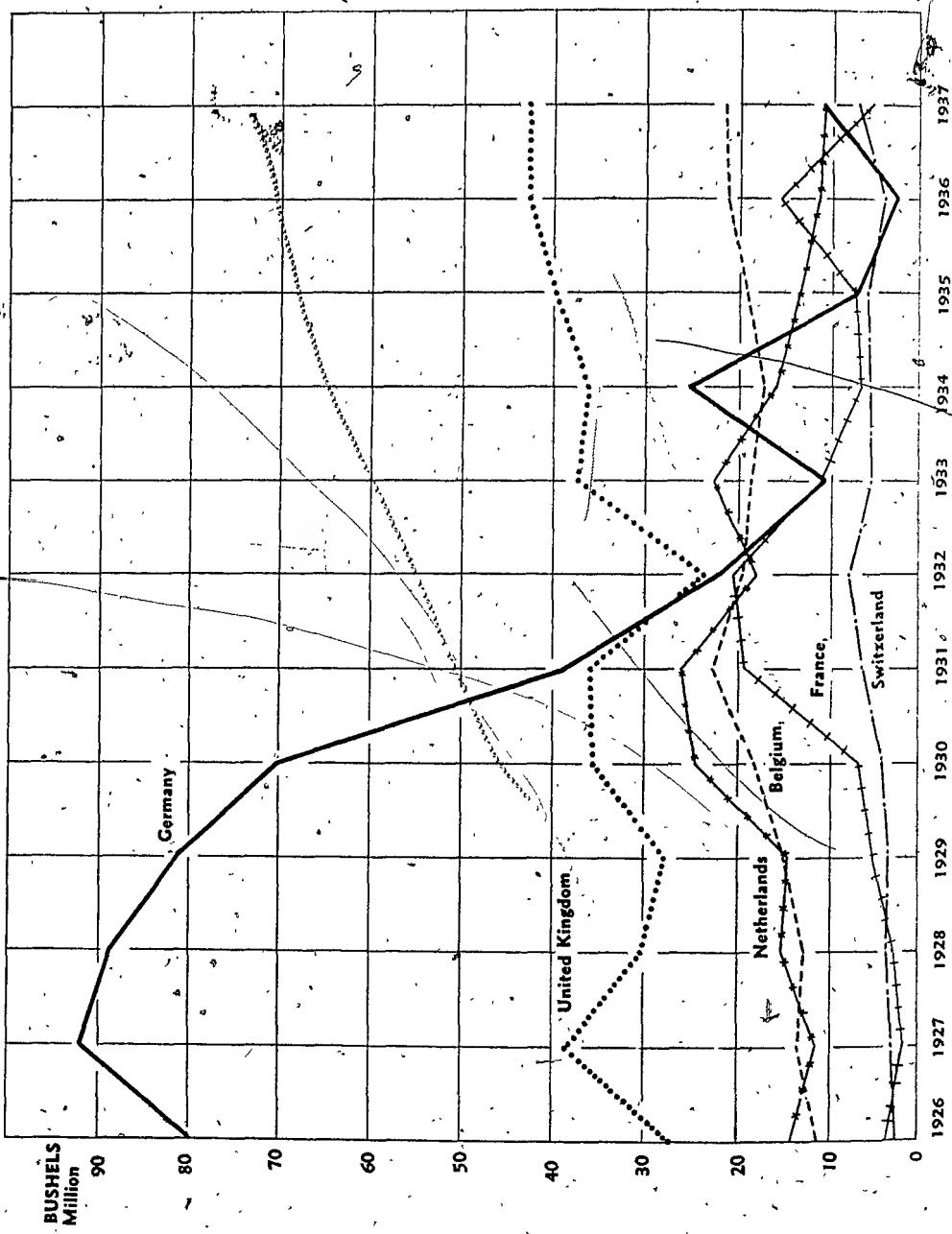


TABLE 2—IMPORTS OF BARLEY (000 Omitted)

FROM	1937-38	1936-37	1935-36	1934-35	1933-34	1932-33	1931-32	1930-31	1929-30	1928-29	1927-28
Austria	1,860	1,936	2,448	3,279	5,209	4,000	4,240	4,480	3,280	2,400	2,880
Belgium	19,810	22,015	19,272	17,670	17,920	18,080	18,720	21,040	15,680	14,400	11,120
Denmark	1,405	2,980	161	2,145	2,720	4,400	7,840	30,000	8,880	1,200	2,080
France	4,043	12,189	10,550	8,332	7,760	15,360	19,120	15,600	3,360	6,800	1,840
Germany	16,031	6,681	3,192	21,872	15,360	7,520	29,680	35,760	99,440	71,440	84,080
Great Britain and N. Ireland	46,220	41,650	46,362	29,823	40,480	27,040	28,080	37,280	28,880	30,000	32,640
Ireland	800	1,136	942	633	400	240	1,040	880	640	1,040	560
Holland	11,486	9,668	13,761	12,319	23,040	17,600	18,160	29,840	16,000	17,120	10,080
Italy	2,031	1,552	2,155	3,858	2,240	1,920	1,600	1,520	720	800	800
Norway	585	1,287	703	349	560	320	6,000	2,160	1,520	1,120	1,280
Switzerland	6,725	6,214	5,305	5,617	4,800	8,560	...	5,760	3,920	4,160	2,720
Estonia	196	118	69	...	...	...	...	...	...	480	160
Other Europe	108	510	1,131	217	...	80	480	960	1,520	2,560	1,680
Total Europe	111,300	107,936	106,051	106,014	120,480	105,120	134,960	185,280	184,000	153,520	151,520
Ex Europe	2,961	5,617	1,760	3,832	# 3,000	5,440	10,400	3,200	2,800	4,640	5,520
TOTAL	114,261	113,553	107,811	109,846	123,480	110,560	145,360	188,480	186,800	158,160	157,440
U.S.A.	1,054	16,968	703	11,023	...	...	...	...	...	...	...
TOTAL	115,315	130,521	108,514	120,839	...	...	...	...	...	...	...

(##—Partly estimated.)

TABLE 3—CORN IMPORTS BY CALENDAR YEARS (BUSHELS)

	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928
Austria	12,666,460	12,315,090	5,563,120	20,225,200	'19,368,220	15,348,870	12,263,670	7,270,370	4,910,610	5,707,620
Belgium	36,045,420	36,473,920	31,006,260	29,703,620	29,540,790	33,630,100	32,994,500	23,087,580	23,036,160	22,411,120
Czecho-Slovakia	2,785,250	3,752,230	6,427,500	8,398,600	7,018,830	12,375,080	26,652,700	10,763,920	7,884,400	10,555,240
Denmark	24,715,880	12,872,140	9,255,600	20,165,210	19,848,120	37,652,290	29,360,820	12,243,660	7,815,840	25,691,860
Estonia	428,500									
Finland	3,256,600	3,303,720	2,099,650	4,209,100	2,519,580	1,071,250	771,300	231,390	222,820	29,950
France	29,480,800	28,281,000	24,167,400	25,315,780	28,726,640	46,236,570	42,601,470	32,326,040	32,188,200	28,635,790
Germany	85,108,670	67,777,000	11,141,000	15,974,480	10,069,760	29,857,880	19,993,810	25,675,720	26,344,180	50,554,430
Gt. Brit. & N. Ireland	143,588,920	146,632,700	119,011,590	122,748,110	102,608,610	105,625,250	106,525,100	68,594,280	69,828,360	66,014,710
Greece	1,628,300	2,485,300	2,142,500	171,400	1,054,110	5,973,290	762,730	274,240	1,105,530	1,002,690
Holland	37,922,250	35,925,440	34,939,890	39,310,580	48,849,000	66,381,800	61,961,100	44,564,000	39,164,900	47,863,450
Hungary	8,501,440	9,906,920	18,425,560	12,795,910	6,444,840	5,082,010	25,315,780	4,096,460	394,220	728,450
Irish Free State	12,185,110	8,684,270	11,123,860	12,683,600	11,638,060	22,427,690	22,052,300	32,771,680	29,883,590	35,565,500
Jugoslavia	8,570									
Norway	6,118,980	5,296,260	5,073,440	5,167,710	6,564,620	6,041,850	7,867,260	59,990	59,990	754,160
Poland	385,650			102,840	325,660	179,970	908,420	702,740	5,356,250	3,445,140
Portugal	1,114,100	599,900	728,450	2,913,800	2,313,900	2,553,860	2,219,630	3,282,310	1,731,140	4,576,380
Spain	?	2,056,800	1,371,200	3,093,770	12,051,140	6,787,440	5,896,160	11,158,140	13,137,810	2,648,130
Sweden	7,413,050	2,948,080	1,696,860	4,285,000	10,446,830	9,512,700	14,003,380	5,287,690	3,050,920	7,498,750
Switzerland	4,216,440	3,525,160	3,813,650	3,462,280	3,256,600	5,630,490	6,796,010	4,764,920	3,882,210	5,381,960
Algeria	85,700	188,540	68,560	214,250	68,560	197,110	385,650	137,120	125,710	197,110
Canada	16,540,100	17,311,400	7,155,950	8,312,900	5,510,510	7,387,340	9,684,100	11,423,810	15,503,130	13,960,530
Cuba							?	248,530	951,270	1,251,220
Egypt		17,140	51,420	42,850		85,700	531,340	77,130	17,140	8,570
Japan	?	1,833,980	4,113,600	?	77,130	2,228,200	3,325,160	2,613,850	1,868,260	1,465,470
Tunisia	51,420	471,350	68,560	214,250	?	351,370	634,180	197,110	?	1,182,660
U.S.A.	86,259,900	31,451,900	43,278,500	2,999,500	162,830	342,800	617,040	1,559,740	411,360	565,620
Uruguay	?		?	?	?	?	?	?	282,810	257,100
TOTAL	515,322,670	387,953,460	357,686,090	334,436,910	318,084,140	448,549,520	443,257,540	314,579,130	301,175,510	366,324,650

APPENDIX
BARLEY GRADES RECOMMENDED BY THE NATIONAL BARLEY COMMITTEE
FOR THE WESTERN INSPECTION DIVISION

STANDARD OF QUALITY				STANDARD OF PURITY			
Grade Name	Minimum Weight Per Bushels in Pounds	Variety	Minimum Percentage of Variety or Type	Degree of Soundness (See Footnote No. 1)	Seeds (See Foot-note No. 2)	Wild Oats	Other Grains
No. 1 Canada Western Six-row	50	Any six-row variety equal for malting purposes to O.A.C. 21	95	Sound, well matured, may contain slightly weather-stained kernels	Practically Free	About $\frac{1}{2}\%$	About $\frac{1}{2}\%$
No. 2 Canada Western Six-row	48	Any six-row variety equal for malting purposes to O.A.C. 21	90	Sound, reasonably well matured, may contain weather-stained, but not badly discolored kernels	Practically Free	About $\frac{1}{2}\%$	About $\frac{1}{2}\%$
No. 3 Canada Western Six-row	46	Any six-row variety of fair malting quality	85	Practically sound, reasonably well matured, may contain weather-stained kernels	About 1%	About 1%	About 3% 4%
No. 1 Canada Western Two-row	51	Any two-row variety equal for pearling or malting purposes to Canadian Thorpe	95	Sound, well matured, may contain slightly weather-stained kernels	Practically Free	About $\frac{1}{2}\%$	About $\frac{1}{2}\%$
No. 2 Canada Western Two-row	49	Any two-row variety equal for pearling or malting purposes to Canadian Thorpe	90	Sound, reasonably well matured, may contain weather-stained, but not badly discolored kernels	Practically Free	About $\frac{1}{2}\%$	About $\frac{1}{2}\%$
No. 1 Canada Western Feed	47	Any variety or type or combination of varieties or types	..	Frosted, weather-stained or otherwise damaged, but sweet grain	About 2%	4%	4%
No. 2 Canada Western Feed	44	Any variety or type or combination of varieties or types	..	Frosted, weather-stained or otherwise damaged, but sweet grain may contain 3% heat-damaged kernels	About 3%	10%	10%
No. 3 Canada Western Feed	..	Any variety or type or combination of varieties or types	..	Excluded from the preceding grades on account of weight or admixtures, may contain 5% heat-damaged kernels	3%	20%	20%

1. SOUND—The term sound shall denote that the barley in the malting and pearling grades is practically free from frosted, sprouted or heated kernels, and is free from broken, skinned or otherwise damaged kernels.

2. SEEDS—The barley in all the grades shall be practically free from seeds and other material removable through a sieve with $4\frac{1}{2}/64$ -inch round perforations. The percentage of seeds listed under maximum limits specified in the grades shall refer to large seeds such as wild buckwheat.

THE CHAIRMAN: I think you will agree with me that is a very splendid paper on barley. If there are any who had doubts at all of the importance of barley as a crop in western Canada they will be dispelled. I know that barley is of special importance to Manitoba because in relation to our other cereal crops we grow much more than the other provinces. It is specially important to the district where I live, the far-famed Portage plains because out there we appear to have soil suited especially to barley growing, and if Mr. Elders and the other malting companies will only continue to give us anything like the premium we have enjoyed in some of the years there is no question that the malting type of barley being grown will stay up to that standard.

I know there are several who would like to take part in the discussion of this very important paper, but I am going to ask Mr. Paul Bredt, who has already spoken to you on one or two occasions to lead the discussion.

MR. P. F. BREDT: MR. PREMIER, LADIES AND GENTLEMEN:

I will be very brief in adding what I have to say to Mr. Elders' very informative paper. When I wrote the article referred to by Mr. Elders, in December, 1936, the National Barley Committee and other interested bodies had come to agreement on a revised schedule of barley grades. This draft we expected would be considered by the agriculture committee of the House of Commons, and if approved, submitted to parliament while in session early in 1937. Apparently due to pressure of other business, the Canada Grain Act was not opened up at that time. It is now generally assumed that revision of the Grain Act will be considered at the forthcoming session of the house in January, 1939, and if the new barley grades are passed they will be effective for the handling of our next crop.

I am still of the same opinion, and I still have the same hope that the new grades will increase sales of feed barley in eastern Canada. Eastern feeders have consistently objected to the inclusion of the small black seeds, which are not only useless but in many cases injurious to livestock. These seeds have been practically eliminated from the new feed grades.

To meet the needs of Old Country buyers, and in order to give us an opportunity to participate in the British malt extract and distilling trade, it is provided in the new schedule that frosted, improperly dried, immature, or otherwise damaged or unsound barley cannot be put into the three top grades. As a matter of fact the present grade of 3 Extra six-row barley was introduced some years ago with this end in view; but so far there has not been any great demand for it from the United Kingdom. Within the last two months—I think it was about the middle of October—3 Extra six-row and 3 CW barley were selling practically on the same level on the Winnipeg market, or with a very small premium for 3 Extra, which is really a very superior grade. This indicates that the British buyer, in spite of all we have done to advise him of the difference in quality, is not familiar with these grades. The best way to correct and overcome this difficulty would be to have a qualified man—one who has a thorough knowledge of our grading system, as well as the requirements of the United Kingdom barley market—personally and periodically visit all purchasers of Canadian barley in England and Scotland. He could explain and point out the differences in quality and the suitability of the various grades for different purposes. Pamphlets, letters, and other indirect methods used heretofore in this connection seem to have made little or no impression. It needs personal contact. I feel therefore that if the new grades as outlined by Mr. Elders are made law at the forthcoming session of Parliament, a strong recommendation should be sent from the West to the Dominion government that a representative of the Department of Trade and Commerce should be assigned to the particular task of acquainting buyers in the trade in Great Britain with the qualities of our barley. This would not be establishing any precedent because we now have in Great Britain trade representatives interested especially in the sale of Canadian dairy products, also fruit; but we have none for grain. In this connection I would like to say also that such an appointment need not necessarily be confined to barley, but should be extended and include wheat. However, that is aside from the discussion we are carrying on at this time.

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To induce feeders of livestock in eastern Canada and in British Columbia to make greater use of our feed barley, some adjustment in freight rates may be necessary to put it on a competitive basis with corn coming in free of duty from Empire countries—for instance, the Union of South Africa. This with particular reference to corn which is being landed at Maritime ports and Montreal. A suggestion to reduce freight rates on feed grains was also made by the president of the Canadian Manufacturers' Association at a recent conference held in Toronto, which was called by the Canadian Chamber of Commerce to discuss the co-ordination of all Canadian research committees in order to find greater uses for wheat. Lowering domestic rates would certainly help to increase the sales of western Canadian barleys in the East and also in British Columbia.

Referring again to the British market I noticed in the press recently, objections which are being made by British farmers against the excessive importation of barleys from overseas. We may encounter increasing difficulties along these lines in the future, as British agriculturalists have the ear of the government to a greater extent than they have ever had before. Agriculture in the United Kingdom is now being considered as an arm of national defence. The government is certainly listening to the farmers, and if the British Parliament should act upon the suggestions as to quantitative regulations of imports of barley into Great Britain it would seriously interfere with our trade.

Nothing should be left undone to increase sales of our barley, because while they may not be of great importance in themselves, any, or even a slight, shift from wheat into barley production would relieve our wheat problem to that extent. Such a method is quite feasible and to be advocated for northern Manitoba, Saskatchewan and also Alberta, because all wheat produced in these areas is lower in quality containing less protein than in other sections of the Canadian West. At the same time, the quality of the barley produced in the North is better than that in the southern section where we grow our high quality wheat. (Applause.)

THE CHAIRMAN: Mr. Bredt's address contains some practical suggestions. I would not like the discussion to terminate without a word from one of barley's friends in western Canada, Professor Harrison, who is known to practically all of you. He is a member of the Barley Committee that has been mentioned, and he is as you know, Assistant Grain Commissioner for Manitoba. Professor Harrison.

PROFESSOR HARRISON: MR. CHAIRMAN, LADIES AND GENTLEMEN: I was rather hoping that at this late hour the Chairman would close the meeting, but when called upon to speak on barley I always feel constrained so to do. Mention has been made of the National Barley Committee, and I think I can take a moment or two to explain how and why the National Barley Committee was set up.

Back about 1933 the Departments of Agriculture, the Provincial Departments and the Dominion Department, had a meeting in Toronto. At that meeting they organized what is known as the National Advisory Committee on Agricultural Services. The purpose of this committee was to co-ordinate all agricultural research, educational and promotional work in Canada. To carry out this programme with barley the National Barley Committee was appointed. The reason for this was that even at that time there was a question as to whether we were not producing wheat in larger quantities than we would be able to market and it was felt that some other crop, such as barley, could be used to displace some of the wheat acreage. Mr. Bredt has mentioned the point that in northwestern Manitoba, northern Saskatchewan and northern Alberta there is an area which produces a very low quality wheat, speaking on the basis of protein. It was felt by this committee that if we were going to maintain our markets for wheat—speaking now of the National Advisory Committee on Agricultural Services—we would have to look to its quality, determine the location in which it was grown, and find out if in those areas which were producing low quality wheat we could produce some other crop. They appointed the National Barley Committee to look into the whole matter. The National Barley Committee is truly national in that it has representatives from British Columbia, in the West, to Nova Scotia in the East. There are twenty-two members on the committee representing all groups of the industry: producers, country elevators,

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terminal elevators, feeders in the East, maltsters and millers, also representatives from the Provincial Departments of Agriculture, the Dominion Department of Agriculture and the Universities.

This committee began to look into the possibility of replacing a certain acreage of wheat with barley. The first thing that came up was the subject of markets, and the committee have made a thorough study of the barley markets. Mr. Elders has referred to some of the results of these studies. The committee looked into the potential possibilities of the quantity of barley that could be exported, and what the quality requirements of those markets were.

The next step was to develop and produce barleys to suit these markets. We called in the plant breeders and asked them to institute a programme of plant breeding with the object of developing barleys better suited to the requirements of the maltsters and feeders. Previous to this the plant breeders had developed some very fine varieties from the standpoint of the producer. The question of malting quality had not been given a great deal of consideration. The variety O.A.C. 21, the standard of excellence for malting purposes, was more or less of an accident so far as quality was concerned. There is a great deal to be said for the quality of O.A.C. 21, but not so much for its agronomic qualities.

The committee have ten plant breeding institutions working on barley. They have crossed some one hundred different varieties, and there are thousands of hybrids now being exploited in an endeavour to determine if they are satisfactory from a market standpoint. None of these have been distributed, excepting Regal and Newel, two smooth awned varieties for feeding, and Mensury Ottawa 60 for malting purposes.

The committee, in conjunction with the National Research Council, made a study of the injury to barley in threshing, cleaning and handling. It was thought that the cleaning and handling in the country, terminal, transfer and seaboard elevators were responsible for the damage. It was discovered that most of the damage took place right on the farm in the threshing machine, and if a sample was badly damaged in threshing it became progressively worse in the cleaning and handling.

The next problem tackled was the revision of the grades to better suit the market requirements. After consulting with the producers, the country and terminal elevators, the maltsters, millers and feeders in Canada, the United States and the United Kingdom, and the barley research laboratories, a new draft of definitions for the grades has been prepared and submitted to the Board of Grain Commissioners. It is expected this will be presented to Parliament when amendments to the Grain Act are being considered.

It was thought by the committee that the eastern Canadian feed market could use larger quantities of western barley to advantage to both the western producer and eastern feeder. In this market barley had to compete with home grown oats and imported corn. The committee felt that barley could be used more advantageously than these feeds in the finishing of bacon hogs. A hog feeding project was therefore outlined.

The Western Pools undertook to supply the feed and the Macdonald Agricultural College in Quebec, the Ontario Agricultural College at Guelph and the Dominion Experimental Farms at Ste. Anne de la Pocatiere in Quebec and Nappan in Nova Scotia undertook to supply the pigs and conduct the experiments. Dr. Crampton of Macdonald College directed the project.

Mr. Elders has given you the preliminary findings of Dr. Crampton. I think he is a little conservative. The feeders have always had the idea that for finishing hogs corn was the most economical from the standpoint of gains in weight. This project has not only produced bacon of much higher quality than corn, but has also been the most economical.

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Another project is the zoning of Canada for barley production and the determination of the best cultural practices in the barley areas. In the latter part of the project the United Grain Growers, the Canada Malting Company and the Dominion Malting Company have financed, and the University of Saskatchewan and the University of Manitoba have directed projects at Star City and Hagen in Saskatchewan, and Swan River, Solsgirth, Portage la Prairie and Carman in Manitoba.

Mr. Griffin, in his most excellent paper, suggested the establishment of a Wheat Institute. The National Barley Committee is functioning with barley somewhat similarly to what the wheat institute would operate. The plant breeders from the Dominion Experimental Farms, Agricultural Colleges and Universities are all co-operating in the plant breeding project; the elevator companies, maltsters and Universities in the cultural projects; the elevator companies, malting companies, breweries, Provincial and Dominion Departments of Agriculture in seed improvement; the National Research Council, Departments of Agriculture, malting companies, both country and terminal elevator companies and implement companies in the threshing, and cleaning and handling; the Western Pool organizations, the Dominion Experimental Farms and the Agricultural Colleges in feeding tests; the National Research Council, the University of Manitoba and the laboratories of the Dominion and Canada Malting Companies in malting research; finally, the Dominion Departments of Agriculture and Trade and Commerce, the Universities and exporters in the marketing of barley. It will therefore be seen that a well conducted attack is being made on the whole barley problem.

I notice on the programme, Mr. Chairman, reference is made to coarse grains. It is rather interesting that in the northern section of western Canada an area which produces a low protein wheat produces the best quality of coarse grain. It is in this area that the best oats are produced. The oat market, however, is not promising. Mechanization on our prairie farms and city transfers are reducing the need for oats to a very large extent. Flax produced in the northern areas gives a larger percentage of oil, and a much quicker drying oil than from the southern areas. There is a possibility therefore of displacing a certain amount of wheat in those areas with flax to good advantage. It is not very much; I will grant you, but every little helps. At the present time we are importing, as was mentioned by Mr. Ramsay, quantities of flax largely from the Argentine. Last year crushers in Winnipeg were actually using Argentine flax, and they were certainly using it in large quantities in Montreal. (Applause.)

THE CHAIRMAN: Thank you, Professor Harrison, we are always glad to hear from you. Is there anybody else who would like to say a word?

MR. JOHN GRAHAM: What effect has rust on barley, and what means are taken to have rust-resistant barley the same as we have wheat and oats?

MR. ELDERS: This gentleman asks what effect does rust have on barley, and secondly, is there any work being done to produce rust-resistant barley. Possibly the first work in the West as far as rust damage on barley was concerned was done at the Experimental Farm at Brandon this year. I just received a report the other day from Dr. Johnson, and I noticed it since in one of the farm journals. It says they planted two plots of barley. One of those plots was dusted with sulphur, and the other untreated. The one dusted with sulphur did not have any rust on it, and that yielded something like 20 per cent more than the one that was allowed to rust. A reduction of 20 per cent is a considerable reduction in yield. That was on the early sown barley.

They had another pair of plots sown later, and the damage was even worse on the late sown than on the early. I just forgot the figure on the late sown barley, but it showed a very considerable damage done by rust.

As to the second part of your question, as to whether any work has been done on the rust-resistant barley, Dr. Olson, of the University of Manitoba has produced six varieties of Peatland, crossed with O.A.C. 21, which are rust-resistant. Dr. Johnson at the Experimental Farm at Brandon has a number of strains of hybrid rust-resistant barleys in the testing stage. I believe that Dr. Harrington at Saskatoon

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may also have some. There are a number of crosses at our Experimental Farms at the present time, all being made with a view to producing rust-resistant barley.

MR. HUTCHINSON: In regard to this work we are trying to do in supplanting corn in eastern feedings, as I understand it the corn we are trying to supplant largely is South African corn which comes in duty free, whereas there is a 20-cent duty against other than Empire corn, which has had the effect of keeping out Argentine and American corn. However, in the last Trade Treaty that duty has been reduced to 10 cents. To what extent that will militate against what we are trying to do down there in substituting barley for corn remains to be seen.

MR. JAMES A. RICHARDSON: An important question has been raised on which I can throw some light. It has been suggested that the loss of barley markets we at one time enjoyed might have been caused by the shipping of dirty barley.

My firm has been a shipper and an exporter of barley since any of it first left our shores and I have no recollection of any complaints ever having come to us in connection with the quality of our shipments. We have followed the practice of selling on Dominion government inspection, and Dominion government inspection has always fully maintained our barley standards. Where complaints have been received from abroad it has been because the buyers did not buy on Dominion government inspection, but chose to buy barley of Canadian origin inspected at the American seaboard under the United States federal government inspection standards, which are much lower than are our own.

I might say insofar as the United Kingdom is concerned we have seldom in recent years enjoyed a large market for our barley there, although small quantities have been worked from time to time when competitive with Russian barley for feeding purposes. Recently, due to the improvement in quality, we are getting into the British market in a little larger way with our No. 3 and No. 3 Extra barley.

The only thoroughly consistent satisfactory export market we ever had for our barley was when Germany was a free buyer after the war. My recollection is that the price at that time was around 80 cents. The Germans were buying the barley for hog feed, and price, not quality, was the determining factor, resulting in a large part of their purchases being made on United States federal inspection. No doubt barley under the same inspection also went into some of the Scandinavian countries and this I am sure is the barley which one of the last speakers referred to.

When Germany ceased to be a buyer of our barley there was a very sharp falling off in our sales abroad and our market suffered accordingly. The loss of this business though, must be properly attributed to German government policies and not to the quality of shipments.

It is highly unsatisfactory that our Canadian grain should be sold at any time under any standards other than our own, but I think Canadian exporters can be depended on to convince buyers abroad of the advantages of buying our barley entirely on Canadian certificates in the same way that Canadian wheat is purchased.

THE CHAIRMAN: Thank you, Mr. Richardson.

Wednesday, December 14, 1938.
8.00 p.m.

Chairman, Hon. John Bracken.

THE CHAIRMAN: As arranged this afternoon we are meeting tonight to hold a general discussion on the papers delivered today and to have a review on the honey industry in Manitoba. The meeting is now open for questions and discussion in regard to the papers presented during today's sessions.

MR. BROCKINGTON: I would like to ask Professor Hope a question or two.

THE CHAIRMAN: Take as long as you like, Mr. Brockington.

MR. BROCKINGTON: Thank you, sir, but tonight I have to deal with facts and not fancies. Before I do so I would like to preface the questions I am going to ask by a short statement. I am prompted to do this by the remarks of Mr. Hutchinson, who, I think, was the final speaker this morning. It does seem to me that we are here because there are two paramount necessities in this situation we are all facing: (1) The extension and retention of markets; (2) the maintenance of a just price for the farmers of western Canada. And it is because I think everybody in western Canada is thoroughly united in their present attitude on both those questions that the progress of this conference has been possible. Personally I do not know anybody, except perhaps an odd individual (and I may say, if there is such an odd individual I am no less surprised at this oddity than I am impressed by his individuality) who does not agree first of all that there is no argument whatsoever in the mind of any westerner against the maintenance of a just price for the western farmer, a price which guarantees him a decent standard of living. For that reason I think every organization in western Canada connected with the farmer's business this year did support a Wheat Board, and did support a price of not less than 80 cents, and, I believe, next year will support either a Wheat Board or whatever alternative can be set up to guarantee the farmer no less than a similar price to safeguard a decent living. I think I can say that perhaps for the first time in western Canada the vision of us all on this question is clear and our voices are united. Therefore I welcome the things Mr. Hutchinson said this morning when he used his arguments, from his rich experience, and adorned them with a sincerity for which he is well known. There was, however, one impression that might be drawn that would create a misapprehension that I am sure he would not wish to remain. I refer to some of the remarks he made concerning the recent proposals to endeavour to find industrial uses for farm products. I think we would all be foolish if we thought any such proposal was going to bring any immediate cure, but we would all be wrong if we neglected the possibilities of such a proposal. I happened to be privileged to attend the recent conference called at Toronto. At that conference there were represented some 70 organizations, amongst them the two of the three great western pools, the Saskatchewan Pool by its counsel, the Manitoba Pool by its president. All those organizations came to that meeting—I won't say hopeful but I think helpful—and while my own part in the discussion was bound to be inexpert, and I hope humble, I did stress at the outset of that convention some of the points Mr. Hutchinson stressed, and I want him to know that everybody who was there felt as he did about these three essentials: (1) Whatever work was undertaken would probably have to wait some considerable period of years for fruition; (2) It was quite hopeless to think any solution of anybody's problem was going to arise by the substitution of the use of one agricultural product for another; (3) If any process was ever discovered it must obviously stand on its own sound economic base. Therefore we are all in agreement. On the other hand, if anybody had said concerning any of the scientific researches, which involve so much perseverance and patience, that perhaps it wasn't worth doing them, I think he would be wrong, and I am sure Mr. Hutchinson would most heartily agree. For I thought, as I was listening this morning, that if when we started to look for rust-resistant wheat, and felt that because it would have taken a number of years, therefore it didn't offer any cure, that would have been the wrong attitude to take. I am sure Mr. Hutchinson will agree with me when I adopt his faith and say this: We would be foolish to imagine any undertaking of any form of scientific industrial research would provide an immediate cure, but we would all be not quite true to ourselves if we did not enthusiastically encourage any investigation or work which contains within it the germs of prosperity for those people whose happiness we all sincerely and fervently desire. This is a stand which I feel I am called upon to take not only for myself, but on behalf of those whom I represent.

I would like to ask Professor Hope, if I might, two questions.

This morning, in quoting figures as to the minimum price of wheat necessary to maintain certain amenities in Saskatchewan, you were, I think, referring to the price on the farm and not the price at Fort William. The following essential fact, however distasteful it may be to some people in eastern Canada, should be stated directly. Am I correct in drawing from your remarks this morning this con-

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clusion, that insofar as Saskatchewan is concerned the price of 80 cents a bushel for wheat at Fort William is quite inadequate to enable the Saskatchewan farmer to pay anything but a small portion of his existing debt, and certainly to allow him to maintain decent standards of living. Would you say that was a correct conclusion?

PROFESSOR HOPE: The present price at Fort William is not enabling the farmer to pay any debt in Saskatchewan except in a few cases in the north.

MR. BROCKINGTON: And if such a price were maintained over a period of years it wouldn't enable him to maintain a reasonable standard of living?

PROFESSOR HOPE: No debt could be paid.

MR. BROCKINGTON: How about the standard of living?

PROFESSOR HOPE: Probably only just fair.

MR. BROCKINGTON: Can you say what the conditions are in Manitoba and Alberta?

PROFESSOR HOPE: That is a little more difficult, because we haven't actually got any definite debt figures on Manitoba and Alberta. It would be more or less of a guess, I admit that, but I would make a guess that 80 cents at present—60 cents on the farm—would enable the farmer in the provinces to meet very little of their interest charges.

MR. BROCKINGTON: In Alberta?

PROFESSOR HOPE: In Alberta and Manitoba, both situations, as I take it, are somewhat similar. Both have had fairly close to average yields in the last eight years.

MR. BROCKINGTON: In view of that may I say this: If the farmer of western Canada is not to be allowed to subside into a condition of living and of livelihood less comfortable, less secure, less worthy of him and not to maintain the position that as a good and useful citizen he ought to occupy, the wheat price should be more than 80 cents.

PROFESSOR HOPE: That is right.

MR. LEONARD WIDDUPP: I am very pleased to hear the views expressed by Mr. Brockington, and I am forbidden, I suppose on account of time, to pay full compliment to what was said this morning by Professor Hope, Professor Britnell, and Mr. Hutchinson. We have had many very fine proposals emanating from this conference, such as the industrial uses of wheat, trade agreements and many other things, but we must all agree that those things are going to take some time. I am much more concerned about the immediate need of the farmer. The farmer today is in peril. He is in need of rescue. I am very glad Mr. Brockington brought up the question of debt, and I cannot help but pay a compliment to Professor Britnell and Professor Hope for the realistic way in which they dealt with the debt situation this morning. As elicited by the questions of Mr. Brockington, it has been shown that the debt situation has become intolerable. What is one of the first things we have to do to clear a way in the pathway to recovery? I would suggest it is some drastic adjustment of that debt.

Commenting further on what Professor Hope said this morning in regard to the ability of the farmer to pay interest. From the year 1922 to 1933 the income derived on his investment did not equal three per cent. That was during a period of fairly good prices and fairly good yields. If those are facts, then how can we expect to put the farmer in a position we would desire to have him, that is, a position of independency, with the debts already owing by him, and on which he has to pay eight per cent perhaps, or more? I would suggest, Mr. Chairman, one of the immediate things we have to do to clear the pathway to recovery is the cutting down—the adjustment of debt—much further than has been contemplated up to the present, and with that also, lowering the rates of interest.

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There is another thing that would have immediate effect upon the farmer's position. The statisticians two or three days ago, dealing with the question of the international wheat conference in England, expressed themselves very dubiously as to the outcome. They felt very uncertain that any good would come of it. To me it seems the proper thing that we, one of the greatest wheat exporting countries in the world, should have someone from Canada attend that conference. Of course we shall, because we are members of the committee. But we should have a man there who is prepared to speak for Canada, one of our influential men, to go into conference with the committee to negotiate and sincerely attempt to see what could be done to better conditions, and so avoid the competition that prevails at the present time between the four great wheat exporting countries of the world. I believe if they met there, men from other countries in the world (30 or 40 countries taking part) with a sincere desire to remedy the evils of competition that have prevailed up to the present time, something of real value could be achieved.

I think we ought to realize that, before we can put the farmer on a sound economic basis and place him absolutely independent, where he can run his own affairs, he must have a fair price. That fair price, I have always found, is the cost of production. We all know that if the costs of production are not covered, the farmer can never achieve a state of independence, and he will forever be begging for assistance of one kind or another. I think the first essentials that have to be secured, which are contained in the two or three things I have mentioned, could bring quicker recovery and relief than almost anything else.

As to the price being the cost of production, I would say that is absolutely essential. We all know where expenditure exceeds income you can never achieve a position of independence. We have been told in the past that farming is not a business, that it could be carried on in some miraculous way, selling its goods at below cost. We all know it cannot be done. I think the two or three things I have mentioned are the things we should try to secure immediately to bring the relief so absolutely necessary at the present time. (Applause.)

G. R. BICKERTON: Mr. Chairman, I want to first of all express that I have been very much interested in all the proceedings of this very unique conference. I want to say it is unique, possibly for one, because of the fact I have sat here for three days and haven't said a word. I know that if some of my friends back in Saskatchewan get to know that they will wonder what was the matter with me. I was encouraged, however, to rise because of the remark made by Mr. Brockington and supported again by our friend Mr. Widdupp. I was interested in what Mr. Brockington said in regard to a just price. I haven't thought it was necessary for me to rise to my feet because the things that have transpired in this conference have been things that have been suiting me just right up to the mark. We have, during the past number of years, endeavoured to get the people to say just exactly what they say today, and because we tried many ways and methods to get the people to see the things that were affecting them, as they were also affecting us, we got to the place where we were hardly nice to know, and I am glad that this conference is seeing it very, very distinctly. Just price! What is a just price to be? A just price for the labour of any other people in any other walk of life? The just price would be that price that would enable them to buy the goods and services they needed to carry on their labour in their service. Isn't that true? If that is true of the people of any other walk of life, is it not also true of the agricultural people that a just price for their commodities would be the price that would enable them to buy the necessary goods and services they want in their domestic and occupational life? Therefore, it brings us down to a matter of what is the best way to put it, what is the best programme to get it. Some say "cost of production," regardless of what it is. I hope that the people will get that solidly into their heads. And that is the price that the agricultural people are entitled to—the price that would enable them to buy the goods and services they require—or if they do not get that, the other people continue to suffer in consequence.

I was very much interested in the opening remarks of Premier Bracken—interested in one particular thing, because it is the one thing of all other things

that concerns me most, and that is the future and welfare of 290,000 families—290,000 farm families that the Premier mentioned who may find themselves out on a limb if the markets we used to have for wheat are not regained. I would like to say that they are already out on that limb, on a \$584,000,000 limb in Saskatchewan, of debt. The danger is the limb may be broken off and then they wouldn't know where they would find themselves. I listened with very keen interest to the whole of this discussion, and its trend pleased me. I was able to concentrate on; not what I was going to say, but what the other people were going to say, and as I sum it up it amounts to something like this: There is a market for the disposal of wheat to the amount of 540,000,000 bushels and Canada will get a proportion of that market. But when we got into the possibilities of widening that market, France was discussed, Italy, and many other nations—one of our friends visiting here didn't see any problem in it at all—that the natural increase in population would take care of the natural increase in wheat. Well, in Italy, one of the nations mentioned, they not only bonuses their producers to produce wheat but also to produce children, and they didn't buy any more wheat. So that I cannot see any solution in the immediate future in that way. But how have we almost left that discussion? In this way: The different speakers who presented their very worthwhile papers could see no possibility of the various European markets opening their doors to us, but the general opinion is, we will continue to produce wheat. We have to make some kind of a shuffle one way or another.

I was very much interested in the remarks of Dean Kirk this afternoon, when he mentioned that some shift of some acreage would be something that would be well worth while, and I agree with him. But, regardless of the fact that we cannot change this entire machinery and facilities we have built up for the production of wheat, at least we can make some endeavour to take some of the lands out of circulation. It is my opinion there will have to be an organized endeavour to remodel the entire structure of agriculture to fit into a changed provincial, national, and international economy. I think that we are foolish if we all get the idea into our heads and keep it there, that we are going to take a machine that fits into an economy international in scope and expect that agricultural machine to fit exactly into an economy that is entirely changed from what it was when the agricultural structure was built up—to fit into it or grow into it. I think we have to get our minds into remodelling some of our structure and idea. Now, Mr. Chairman, I am taking up too much time, but I did want to say that my opinion is this, and I want you to try and get it into your heads if you can: Anything short of a price that will enable farmers to get the goods and services they require not only will reflect in their standard of living and increase the debt Prof. Hopé spoke of, but will continue to reflect in the life of all other groups in the length and breadth of this Dominion of Canada.

W. G. A. GOURLEY: I was glad to hear Mr. Brockington and the questions that he asked just now. I also heartily agree with the last speaker, that we may be able to do something to make some adjustment in our agricultural policies. It seems to me, speaking of prices, I heartily agree with the last speaker again, as to what you call those prices. I believe that over in Australia, at the conference there, they termed them about right when what they were after was a "social price." That meant the price that was best both for the producer and consumer. That is the price we are striving for. We have been brought up a long time to look on the best price as the one the consumer wants, and we can't get that out of our heads, we can't realize the change that has come about. Now the fact is that we have been selling at an unsocial price and the consumer has realized that at last, and at the London conference they offered to reduce the duties if the exporting countries would get the price of wheat up to 63 cents. Now our money is at something like a 40 per cent discount below gold, so that the 80 cents we are now guaranteed, besides being an unsocial price is a price lower than the price the importing countries want us to get it up to. If it were as high as 63 cents in gold funds, wouldn't wheat purchasers be able, on the whole, to make some kind of an effort at meeting their obligations. At present the 80 cents is decidedly below the 63 cent gold standard, so that it strikes me there never was a time when the importing countries were as willing to meet the exporting countries in something that would be fair to

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all as they are today. It is not the importing country we have to convenience, it is the exporting country. It is not the importing countries that we have to convenience—a higher price will be good for them—it is the exporting countries. That is the most remarkable thing I ever saw and yet it is our only hope.

MR. MARCUS LONG: Do you think that the Dominion government, in view of the seriousness of this wheat problem, would grant to western Canada a special tariff moratorium for a period of three years so that we could deal with the one country, on a barter-basis, or otherwise—I think the meeting is agreed that the only potential buyer we have is Germany—and give us in addition to that the privilege of setting up a system through our chartered banks, no, a national bank, where farmers could receive payment at say a dollar a bushel, and by the medium of an export bank, as they have in other countries, so there could be a medium for giving the farmers a fair exchange? Do you think the Dominion government would do that? Otherwise it is impossible.

PREMIER BRACKEN: In the first place I want to thank you for the honour you convey in assuming I can answer for the Dominion government. I can't. If I were in their confidence I imagine I would have to say that they probably would not see their way clear to do what you propose. However, I am not in their confidence and I do not know what they would say.

MR. LONG: My other question has to do with taking advantage of the currency. We have had to deal with eastern economy, which is entirely different to ours. We are under the misapprehension here that agriculture is our big industry. I am suggesting that the pulp and paper industry has a larger effect in Dominion economy than wheat, and therefore, they have to be guided by their eastern economy. We are behind the eight ball forever unless we have the privilege of making a monetary unit of our own, and having a tariff fiscal policy of our own.

PREMIER BRACKEN: Did you expect me to go into a discussion of that, Mr. Long? In the first place, I am not a monetary expert. And in the second place, we went into that with the best experts on the American continent and placed our views before the Dominion-Provincial Commission, and they have admitted that perhaps we made the best case that has ever been made for the position we took. All those representations are being printed and will be widely distributed, and I will be glad to see that Mr. Long gets a copy, and others who wish them. But we feel, during recent years, that the Canadian tariff has operated to the disadvantage of this section of Canada, and we feel the monetary policies between 1931 and 1936 as administered by the national government, resulted to the disadvantage of western Canada to the extent of \$47,000,000 a year, and so far as it is within our power to prevent it in future we lean on the very merit of our arguments to try to see no such handicap is placed on this section of Canada in the future. Whether we have the strength to do that remains to be seen. I suggest that we have learned a lesson from this conference. We have seen around the conference table here in the last few days men from all walks of life in Canada, men from rival commercial organizations sitting down around a common table, finding a common viewpoint, a common objective. I suggest when the people of western Canada speak with a united voice on some of these questions we will be listened to at Ottawa, and until we do they will probably not pay much attention to us. That is what has happened in the last few years, and I suggest that if we do in the future as we are doing at this convention, sit around and thresh out our common problems and arrive at what is the best policy for this large section of the Canadian economy, when we go to Ottawa we will be listened to.

PROFESSOR E. C. HOPE: PREMIER BRACKEN, LADIES AND GENTLEMEN: I have to offer an apology for the Saskatoon Board of Trade. Just before I left I received a phone call from the chairman of the Agricultural Committee of the Saskatoon Board of Trade explaining they were so short of funds they could not afford to send a delegate to this meeting and asked me if I would act as their representative. I must apologize for forgetting that last night. I have been so busy working on my address for the last two days that I forgot about the matter until just now. The

Saskatoon Board of Trade is greatly interested in this conference and asked me, when I returned, to give them a complete report, which I shall do. Whilst on my feet I think I shall take about two minutes on a few points that were brought up.

Regarding interest rates to farmers. I am very doubtful if in the long run any change in interest rates would make much difference to the debt burden of agriculture. The reason for this is that if interest rates are lower the gain to the farmer would tend to be capitalized in a higher value of farm lands over a long period of time. The result would be more total dollars of debt but at a lower interest rate; so, in the long run, it is very doubtful if there would be any definite gain. This has been argued by economists many times. They believe if you had a lower interest rate it would just mean capitalizing your farm at a somewhat higher rate, and the mortgage companies would come along and give a higher loan. The real cure is for mortgage companies not to lend 50 per cent of the appraised values of the farms as they have been doing for many years; our studies have indicated for reasonable safety, because of price fluctuations and yield fluctuations, loans should not exceed more than 30 per cent of the appraised value of the farms. We know many mortgage companies and many loan companies have given loans up to 40 and 50 per cent and even higher. I do not wish to criticize the Federal Farm Loan Board at this time, but owing to special circumstances they are loaning up to as high as 70 per cent of the appraised value, by means of two kinds of loans. A continuation of this policy inevitably brings trouble.

And now regarding a just price. It is very difficult to say what is a just price under present circumstances, for the reason that we definitely have a central area in western Canada with a much higher load of debt than either East or West. Therefore, any price that is considered as a reasonable price can not be just for all of western Canada. If it is fair for Alberta, fair for Manitoba, and fair for northern Saskatchewan, it can not be fair for the central region where the debt burden is high. What we really need if we are going to decide on any kind of so-called just price, would be to try and adjust the debt burden between regions before we start adjusting the price. Right now the debt burden between regions is not equalized.

One more word I might say about the present system of bonus this year. This year it may cost the federal government \$60,000,000—we don't know—but whatever it is, personally I think it is about the most unfair kind of bonus you can possibly give western agriculture, because it gives a definite bonus to the man with a big crop, and nothing to the man with a crop failure. There is no bonus on coarse grains. The farmer with no crop is out of luck. If there is no change in policy by next spring we will have a shift to increased wheat acreage. If I were a farmer I would plant more wheat next year. Why? Because oats are 15 cents a bushel and wheat is between 58 cents and 60 cents. A farmer would be dull if he did not react in this manner; and this is exactly what he is thinking of right now. To make the bonus fair, if it should be necessary in another year, it should be based on the total acres of crop land. In western Canada we have approximately 60,000,000 acres broken up—summerfallow, oats, barley and all crops combined. One dollar an acre on all land broken gives no special emphasis on either oats, barley or wheat. It gives equal emphasis to all, and if wheat is sold at, let us say, a market price of 40 cents the total cost would be the same as this year and probably some wheat would be fed. This wheat is not fed at 60 cents. At a dollar an acre basis it wouldn't cost any more money to the government of Canada. But bonusing the price of wheat prevents the very thing you are trying to do, it does not help to feed any of that surplus. As long as the farmer can get 60 cents for wheat he will not feed wheat to hogs.

One more question I would like to answer that Premier Bracken asked this morning: How much of that decrease in income would be due to price and how much due to production? I have made a few calculations, very roughly, and it would indicate that probably somewhat more than half of the decline in income is due to price, and that is about as close as I can make an estimate at present. (Applause.)

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PREMIER BRACKEN: In other words, Professor Hope says that of the reduction in the income of farmers since 1929 of \$2,700,000,000—approximately \$1,400,000,-000 was due to a depressed price, a price below the average of 1928 and 1929.

J. H. WESSON: To give a little information based on the statement of the last speaker, dealing with the question of just price, whether the same price would be the just price for Alberta, for Manitoba, for northern Saskatchewan, and the southern part of the province, it is interesting to note, and I think it is a fairly good index, that the adjustments that have been made in the debt structure in the northern part of the province, North Battleford, Prince Albert, Yorkton, Humboldt, and other centres are very much larger than at any point in the southern part of the province, which proves conclusively that those farmers, since 1929, have gone deeper into debt and all they have gained is their feed and food.

DR. F. K. SCHNEIDER: Mr. Long mentioned a few minutes ago Germany as a potential market for western Canadian products. So did Mr. Strange yesterday and a few more speakers in the last three days. I am glad to have this opportunity to say a few words myself about this subject, and I do not want to speak theoretically, but rather in a concrete and more practical way. I may say that I have a rather detailed knowledge, not theoretical only, but practical, of the trade relations between Germany and Canada. Unfortunately trade between Canada and Germany is greatly reduced today compared with pre-war conditions. There were reasons given during this conference for this development. I think, however, that a few things should be stressed more than before.

I refer to the fact that about two years ago a trade agreement was signed by Germany and the Dominion of Canada, the first trade agreement after the war. This agreement is based on a balanced trade and the method applied is semi-barter. To illustrate this point a little more—it is not correct that Germany buys on a barter basis in the sense of the word. Actually today, under the new trade agreement, all trade between these two countries is on a cash basis. If I export honey to Germany they pay me in Canadian funds. If a German firm exports German goods to Canada the German firm is paid, not in goods but in Canadian dollars. Now, on the other hand, it is semi-barter. That means, if Germany exports during the month of December, 1938, goods to the value of say \$2,000,000 to Canada, that \$2,000,000 is earmarked by the German administration for purchases of Canadian products during the month of January, 1939. I mentioned \$2,000,000 because that perhaps is the approximate amount of the monthly trade between the two countries at present, but I wish to say that there is actually no limit today under the trade agreement between those two countries—the trade might as well be \$20,000,000 a month. This is taken from facts of the present trade agreement and is not theory. I will come to the difficulties a little later.

PREMIER BRACKEN: If the trade is now \$2,000,000 a month and it might be 20 millions, why isn't it 20 millions?

DR. SCHNEIDER: I will come to the point in a minute, but before I do this I want to mention another very interesting fact to western Canada. To the trade agreement there is a so-called payments agreement attached, and in this payments agreement there are a number of products listed which Germany is obliged to buy from Canada. Wheat 35 per cent—seed; hog casings; fish, eggs, apples, silver fox furs, honey, cheese and a few more. The only industrial product mentioned in that list on a small percentage basis is ice hockey equipment. (Laughter). No doubt this trade agreement gives western Canada tremendous opportunities which are at present not used. Why are those opportunities not used? Why do we not sell more of our wheat and honey and cheese, and silver fox furs to Germany? Because of the fact that this trade agreement is based on a balanced trade between the two countries, and that the German imports of Canadian agricultural products depend entirely on the willingness of Canada to buy German industrial products. The fact that Canada is not buying enough German industrial products is actually the crux of the situation as far as I can see it. In fact, we in Canada seem to enjoy an anti-German political propaganda in newspapers, boycott meetings and sidewalk parades which naturally must be detrimental to the trade

relations of the two countries. Not only is the Canadian buyer abstaining from purchases of German goods, but the very fact of an unpolite attitude of the Canadian public must be a factor in undermining the existing German-Canadian trade relations. Another thing, Canada evidently does not realize the full extent yet of the development which took place in international trade, which is different from pre-war conditions. The world war destroyed the open market system based on gold reserves and gold shipments, international credit. This pre-war situation is gradually being replaced by a system of bilateral trade agreements, on a barter or semi-barter basis between the two countries. In other words, if two countries want to deal with one another they must buy and sell reciprocally so that a balanced trade will be established. One cannot doubt that western Canada and Germany are ideal countries for a bartering proposition. German industrial products can be used everywhere in western Canada, and Germany can use a great part of our wheat, other agriculture and other primary products that we produce, because Germany is and always will be short of these products of the soil. But as pointed out before, western Canada does not buy appreciable amounts of German goods. In fact, apart from purchases from England, which are quite all right and naturally economically sound, western Canada's chief purchasing is done in the Canadian East and in the United States, namely in countries which are themselves already fully saturated with agricultural products and which therefore do not buy in proportion to western Canada's purchases from them. This is a very unfortunate condition, in fact it is this condition which is responsible to a great extent for the present plight of western Canada. Through this condition western Canada is a constant debtor of eastern Canada and the United States, and never can break even with the surpluses which are unsaleable to our business partners in the East and South. I have no doubt that much could be accomplished to further western Canada-German trade by adopting a more free and co-operative spirit on the part of the western public towards Germany. The idea should be conveyed to the purchaser in this country that every purchase of German goods will automatically make a sale of Canadian wheat, or Canadian honey, or Canadian cheese, silver fox furs and apples—every purchase we make of German goods will automatically make a sale of our western products. The western farmer, indeed every single farmer in this country, can in the case of Germany be his own salesman. He just needs to buy German goods and his wheat will be sold automatically. The importing Canadian business houses, on the other hand, whose profits depend entirely on the purchasing power of the primary producer must be more conscious of the situation and take advantage of the possibilities of the German trade agreement. If they continue to disregard German goods they are on their part responsible for the eventual failure of western agriculture.

Another important factor, and this has been emphasized during the conference, is the question of tariffs. Let me tell you the man who actually tries to import German goods to western Canada can realize the absurdity of our western tariffs. In most cases customs difficulties are so great that the importer is at a disadvantage. Western Canada should indeed march in a united front, built up by every farmer and primary producer until the wall of tariffs is laid down. It is all right for the East to ask western Canadians to be good patriots, to create economically sound industries, but is entirely wrong to seek those at the expense of the western producer.

Mr. Long, when he concluded, asked Mr. Bracken the question, if it would be possible to get a tariff moratorium for western Canada. The premier could not answer that question. I cannot. But I know, academically speaking, we could solve our problem in western Canada if we had the chance to choose our own markets. and if we could make reciprocal trade agreements with countries like Germany. Similar conditions exist in Italy, in Belgium, in Holland, in Scandinavia, Switzerland, and a few more European countries. (Applause.)

PREMIER BRACKEN: I am going to ask Dr. Schneider one or two questions. I understood you to say, that to the extent we buy goods from Germany, Germany will automatically buy goods here. Is that correct?

DR. SCHNEIDER: Yes, it is stated in the trade agreement.

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PREMIER BRACKEN: Is there any limit to the amount of that trade?

DR. SCHNEIDER: No, sir. The amount limited is only referring to a number of goods like honey, in which the amount is limited to \$20,000. It is limited to cheese and a few other articles. But in the case of wheat there is no limit. In the case of seeds there is no limit. In fact, we could sell today the whole of our alfalfa seed production if we only could deal with Germany properly.

PREMIER BRACKEN: You are saying this: What the German nation says to Canada today is this, we will buy from you as much as you buy from us?

DR. SCHNEIDER: Correct, absolutely correct to the last cent.

PREMIER BRACKEN: Then the inference we might take from that is, if Germany doesn't buy more wheat it is because we don't buy more of her manufactured goods?

DR. SCHNEIDER: Absolutely.

MAJOR H. G. L. STRANGE: I don't know the gentleman who has just spoken and I have never seen him in my life before, but what he has said confirms what I said yesterday or the day before. The work of my department during the last two years in looking into and making special investigations of the trade relationships between Italy, Germany and Canada, confirms in every iota and in every particular everything he said. We have long been of that opinion, and are simply amazed that our good people in the East have not yet seen it. The market is there. I would like to take a few minutes just to congratulate you on this splendid meeting and to congratulate also the gentlemen who have given us such splendid papers.

It occurred to me that if it would be possible to have this meeting with all these good papers transferred to each of our western provinces, we would have a chance of doing something the West has never yet done, that is of arriving at a united front for western Canada. If we had a united front in western Canada on this wheat question we would have no trouble in the East obtaining reasonable demands.

Professors Hope and Britnell gave us most excellent papers, but to say the least they were very gloomy about the present situation. I must say our investigations confirm everything they have said at this time, but for fear that there are present some bankers or mortgage and loan people who are going to be frightened from now on about giving a little credit in western Canada, I want to draw attention to a few bright spots which I believe will bring about a decided betterment in the future. I do not say they will help us tomorrow, but these forces are at work and they will eventually ease our position.

First of all, the question of rust. For the first time in 5,000 years rust has been conquered by the agricultural scientist. We have made a calculation of the toll rust has taken during the last sixty years. On the average it comes approximately to ten per cent of annual average crop of Manitoba and Saskatchewan. So I think the figures on which Professor Hope based his thesis of yields of 13.5 and 14 bushels in Manitoba and Saskatchewan will be exceeded by the yields of rust-resistant wheat in the future. Now that rust has been conquered, a ten per cent greater yield in the future certainly will mean a little more money for the farmer. I find this year, for instance, with only one-third of the acreage seeded to rust-resistant wheat these new varieties brought no less than \$30,000,000 more to the farmer.

PREMIER BRACKEN: We have been going on the theory that the more we grow the less we get for it. You are telling us to grow more. (Laughter.)

MAJOR STRANGE: That is how I feel. I believe in the future it will all bring about a decided improvement for the farmer because of the fact that we shall have probably no damage from wheat stem rust.

I cannot at all agree with those who think the price of wheat will not rise. I feel decidedly there are forces at work that will tend to make the price of wheat rise. Money has been inflated in terms of gold 69 per cent as compared with 1913-14.

Many records of inflation in the past have been carefully examined. Going back two thousand years I cannot find a single instance where, in the long run, the price of all products did not rise eventually by the percentage of the inflation. Money has been inflated as I said 69 per cent, and wholesale commodities are up only 25 per cent, and wheat is up nothing at all. I think, therefore, there are strong forces at work underneath all commodities, and underneath wheat in particular, tending to make the price rise. I do not say price will rise soon enough to help our immediate future, but in the long run it will certainly rise, I feel sure.

Something has been said in our good papers about the possibility of reduction of acreage, and some people feel, I believe, that if acreage in Canada is reduced, that an automatic increase in price would therefore take place. I cannot see there is any assurance whatsoever that would happen. Canada produces between 300 and 400 million bushels per annum whereas the whole world produces 5,600 million bushels, per annum, and I do not think our 300 or 400 million is going to affect world price very much. Whether we in Canada reduce a few million acres or not we can look forward each year to one or the other of the following conditions, and to all of them in due course of time:

1. A small crop with a high price.
2. A small crop with a low price.
3. A large crop with a high price.
4. A large crop with a low price.

Another reason which will somewhat assist slightly the condition of our farmers in the future is the result of the American-Canadian-British Trade Treaty just concluded. In analyzing all the details I find that this treaty will make the goods that farmers buy somewhat cheaper than they are, and also that larger markets will be opened for about \$3,000,000 worth a year more livestock, and somewhat smaller extra markets for a number of minor agricultural products.

We have been hearing something about the necessity of agriculture receiving assistance from scientists and industry. We are all, of course, in favour of that kind of assistance. But it seems to me it would be a wrong thing if we were to run away with the impression that agriculture has not already had any scientific assistance. I am of the opinion myself that in the last fifty years Canadian agriculture has had as much scientific assistance, and very efficient scientific assistance too as any country in the world, and certainly as much as industry has enjoyed; and I cannot find any single invention made by industry that affected the same number of people any better than, let us say the invention of Marquis wheat. Substantial returns have been brought to vast numbers of people in Canada and in the United States from that one invention of Marquis wheat. With the new rust-resistant wheats very much the same thing. We have been well served, and are being well served by agricultural scientists. I would, however, be bold enough to make this statement based on twenty years of experience with these estimable and modest scientific workers who are so necessary to farmers, that we should pay them a little more remunerating, which would have two good effects. First, it would induce young men of better calibre to come into agriculture from the universities, and secondly, we could continue to keep in Canadian agriculture men of great talent whom today we lose because other countries take these men away by offering more remuneration. We are a little parsimonious towards our agricultural scientists. If we were to pay more we could keep our best men of talent—then I think our agriculture would be better served.

After listening carefully to all the papers that we have had the privilege of hearing and which deal with this serious wheat problem I, for one, Mr. Chairman, am convinced, by and large, that there is but one solution for our problem, which is, as Mr. Taggart put it, increased markets for our wheat, and I am willing to go further and to say that I think from the studies I have made that the only way to bring about those increased markets is to make it easier for foreign countries to sell more of their own goods in Canada.

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T. F. HUBIE: I have been listening with great interest to these professors, doctors, and statisticians and everything they said, but there is one question they haven't satisfied me on yet. They touched on it, but never got down to facts. In the ten years from 1925 to 1934 Argentine exported 650 million bushels of flax. In that same period Canada only exported 12,500,000 bushels. It is not a matter of weather, because when we were growing good crops, 1924 to 1929, we only exported 11 million bushels in that period. During the last period of five years we exported 1,500,000 bushels. Those people in the Argentine can't be exporting an average of 60 million bushels a year unless it is profitable. We can grow some flax in western Canada—I have grown it myself—and I saw a flax crop in 1913, grown by a farmer in Saskatchewan, that averaged 28½ bushels on 3,000 acres, and incidentally he got over two dollars a bushel for it. There is another thing on this flax question: There is only a tariff of ten cents a bushel on flax coming into Canada, and I have noted with keen interest the last two or three years some of the first boats up the St. Lawrence in the spring carry flax from Argentine. When we can grow flax here, why import it? It is something the government could help the farmer to go into as diversified farming on land adapted for this purpose.

PREMIER BRACKEN: Professor Hope tells me a committee of the Dominion Research Council is now inquiring into that question, as to why there was that reduced acreage. Perhaps Mr. Taggart could add a word to the discussion.

HON. J. G. TAGGART: In respect to flax growing in the West, and Saskatchewan in particular, the explanation of the decline in acreage of flax is largely a matter of the relative price and relative return from the production of flax and wheat. Over the years flax has yielded a smaller return per acre in dollars and cents to the farmer than wheat. As time went on the tendency was for the yield of flax per acre to decline. The harvesting of flax became relatively high compared with wheat, caused chiefly by weed infestation, which flax could not contend with and wheat could. In the farmers mind it is the return he gets from his land and labour. The returns of growing wheat have not yet been so bad as the corresponding returns from flax.

MR. HUBIE: Just on that point. I don't think, so far as I know, enough has been done toward the development of flax for yield apart from the wilt-resistant feature. I still come back to this point, the Argentine would not go on exporting 60 million bushels yearly if they were not recompensed for growing it. And we can grow flax in this country.

MR. TAGGART: We can grow flax, certainly, but that is never the question with the farmer. It is whether he can grow something else with benefit to himself. They can grow wheat a lot more to the acre in Ontario and Quebec, but they do not. The reason they do not grow very much is that it does not pay them to do it. something else is better.

MR. A. PATTERSON: I would like to ask a question along the lines of our German friend's report on trading goods for goods. Wouldn't it be a good idea now, when the East is deciding we need some defence in this country, if we could make a deal with the Germans for some of their armaments, guns, anti-aircraft, etc., to provide a defence for us? We could pay for it with wheat. It seems to me at the present time the farmers in the West have not very much to defend. If they reached the stage where they got a really good price for their wheat, they would become as patriotic as the East.

HON. D. L. CAMPBELL, in the Chair.

THE CHAIRMAN: As I intimated we are going to have a short discussion on honey. As I suggested honey has become an important link in Manitoba's agriculture, and we think its importance is worthy of some discussion at this very important conference. Without further introduction I am going to call on Mr. L. T. Floyd, Provincial Apiarist, who will address you on "The Honey Industry and Markets for Honey."

THE HONEY INDUSTRY AND MARKETS FOR HONEY

by

L. T. FLOYD

APRIARIST, MANITOBA DEPARTMENT OF AGRICULTURE

The early history of beekeeping in this province dates back to the census returns of 1880. The honey produced in that year is listed at 1,080 pounds. Twenty years later bees had been established on the Brandon Experimental Farm by the late Dr. Bedford. This was the first Experimental Farm in Canada to take beekeeping seriously. As far as I can learn settlers from Ontario coming to Manitoba brought bees with them and four names are recorded as pioneers in the business. They are: Wm. Pearcy, of Dugald; Mr. Colman, of Rosedale; Wm. McLeod, of Norgate; and Jas. Duncan, of Emerson; and there no doubt were several others. These men have passed on but bees are still kept on all of those farms. The names I have mentioned were among those who perfected the first organization.

Around 1900, under the leadership of Dr. Bedford, a group were encouraged to form an organization and the Manitoba Beekeepers' Association came into being. Twenty years later sweet clover came into prominence and I am informed about 1902 it was removed from a general clover classification and placed in a class by itself by the field crop men of Manitoba. The natural flora of the province, wild fruit bloom, mints, snowberry, fireweed, wild asters, etc., gave very good crops in the early years, but as the sweet clover acreage commenced to increase honey production also increased and has been increasing rapidly ever since.

The long blooming period of sweet clover gives Manitoba a great advantage over the eastern provinces where alsike clover is the principal honey producing clover and has a short blooming period.

In the eastern provinces golden rod, wild asters, and buckwheat give about a third of the crop which must be kept separate and sells for a much lower price.

In Manitoba the entire crop in most cases can be harvested together and runs uniform in colour and flavour throughout.

There are three major problems in honey production and I want to cover each one briefly and in order so to do let me present the figures of our classification.

We have 100 beekeepers who keep over 100 colonies and we class these as car-load producers (a minimum carload is 24,000 pounds). Some of these operators keep as many as 2,000 colonies and produce several carloads. Then we have 150 with from 50 colonies to 100. We class this group as commercial beekeepers. We have 300 with from 21 to 50 colonies. Then in the group from one to 20 colonies we have about 2,700. Three thousand five hundred and fifty was the total registered last year.

The first three groups I have mentioned produce the bulk of our market honey. The total crop this year runs close to 10,000,000 pounds or 400 carloads.

The problems in beekeeping come under the headings: production, disease and marketing. We feel that production is taken care of very well as the increased figures speak for themselves.

Beekeeping is taught in the University. Short courses are held at different points in the province during the winter and field days in the summer. Apiaries are kept at the Dominion Experimental Farms and literature on this subject is taken care of by the Dominion authorities.

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HONEY PRODUCTION IN MANITOBA

Year	Number of Beekeepers	No. of Colonies	Production Pounds	Average Price	Value
1921	390	5,310	450,000	.25	\$112,500
1922	720	11,050	1,000,000	.18	180,000
1923	960	13,590	1,521,000	.15	228,150
1924	1,260	10,840	651,000	.15	97,650
1925	1,400	19,160	2,054,000	.15	308,100
1926	1,760	21,450	1,762,000	.15	264,300
1927	1,990	30,240	3,694,000	.13	480,220
1928	1,960	29,680	2,887,000	.13	375,310
1929	2,000	33,320	3,426,000	.12	411,120
1930	1,960	43,340	5,055,000	.09	454,950
1931	1,750	31,000	3,676,000	.07	257,320
1932	2,350	32,776	5,886,298	.07	412,020
1933	2,600	28,000	3,800,000	.08	304,000
1934	3,133	41,700	4,669,200	.08	409,300
1935	3,300	51,416	4,978,000	.07	366,940
1936	3,440	51,312	8,135,458	.07	585,400
1937	3,550	55,189	6,748,556	.07	489,275
1938	3,359	57,000	9,598,800	.06	623,922

Years 1921 to 1931, inclusive, revised.

DOMINION HONEY CROP STATISTICS

	1936	1937
Prince Edward Island	14,000	6,000
Nova Scotia	60,000	50,000
New Brunswick	50,000	80,000
Ontario	8,970,000	6,520,000
Manitoba	8,135,500	6,150,000
Saskatchewan	2,636,300	989,000
Alberta	1,850,000	1,500,000
British Columbia	1,129,700	1,426,500
	22,845,500	16,721,500

VALUE OF IMPORTS OF BEES FOR CANADA—1932-1938

	1932	1933	1934	1935	1936	1937	1938
Ontario	\$ 8,170	\$11,861	\$30,380	\$27,658	\$27,019	\$36,766	\$32,148
Manitoba	16,154	35,863	74,620	87,338	89,281	99,458	94,175
Saskatchewan	3,999	1,463	4,369	3,708	4,651	6,040	4,270
Alberta	12,473	10,136	20,645	24,546	22,080	24,173	22,200
Totals	\$37,796	\$59,323	\$130,014	\$143,250	\$143,031	\$166,437	\$162,793

DISEASE

Bees have diseases, as all other stock, and must receive attention. We have a system of handling this problem in Manitoba that is different from the other provinces and has been the subject of much enquiry from other provinces and states. We spend annually around \$5,500 in bee inspection. Two-thirds of the cost is taken care of by revenue provided from apiary registration, a system suggested by a large producer in the northern part of the province. His suggestion was to have every producer assessed five cents a hive and was accepted by the department and when tried out we found about 95 per cent of the beekeepers paid their registration fees willingly. To use an agricultural term we have to twist the tails of the other five per cent to make them come up in line. Each year the number of late registrations seems to lessen since the people have learned that the officials mean business. This year we had 12 inspectors start work in the middle of May and 56,000 colonies were examined. About 2½ per cent of the colonies were found diseased and destroyed with fire. This is a low percentage and becomes less as the people learn to care for the disease themselves.

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WINTERING

Wintering would be a problem with us if new stocks were not so easily and cheaply secured from the southern states. We buy bees of a value close to \$100,000 annually. These are secured in the states of Mississippi, Alabama, Georgia, Louisiana and Texas. They come in by express and truck. A number of our producers take their trucks in mid-April and drive down, taking their containers with them. It is a slack time of the year. They bring back loads of around 1,000 packages each. The saving made on the containers (20 cents each) they claim pays for all the gas and oil on the trip. One truck claimed to have made the trip from Baton Rouge to Winnipeg in 60 hours. About 12 truck loads were brought in last spring. About 35 per cent of our beekeepers, large and small, do not try to winter. They kill their bees after the flow is over and replace with packages next spring.

We have also many large producers who do not buy packages and who winter their bees in specially constructed cellars. The long winter uses up much honey. Whether or not it pays to winter is a subject continually debated but never entirely settled by our producers. The dread of being completely put out of business by a hard winter however is no problem since new stocks are so readily obtained.

MARKETING

The central position on the continent, while it is an advantage from a production standpoint, is a decided disadvantage when it comes to selling the product. Honey producers do not differ from wheat producers in this respect. They all want to sell their product as soon as it is produced. The local market is soon saturated. The grocery brokers who handle honey find it difficult to locate buyers in nearby markets. Transportation charges make it hard to compete with other provinces with a shorter haul to the world's markets. The Dominion government figures on honey in storage, show Winnipeg to be the largest honey market in Canada for several years.

Up to the year 1934 little or no Manitoba honey was sold in Winnipeg stores. In the fall of the year store windows were filled with large displays of Ontario honey. Honey also came in from the United States. One firm informed me they sold four carloads packed in glass around 1923. In 1924 the demand dropped to one carload and in later years disappeared altogether. Ontario fought to hold their business, but as the local production increased it took over the market.

Today I am sure Winnipeg city is the best honey market on the continent. Honey is sold in every grocery, large and small, while in eastern Canadian cities only about one half the groceries sell honey. Some of those Ontario farmers who had faith enough to bring their bees to western Canada with them in later years stated that the bees paid for the farms.

An interesting point that has been often mentioned is that in the depression years bees paid well every year and the demand for honey was good.

There has been only one year, 1936, when honey was carried over in producers' hands. About four carloads were held and sold about the time the new crop came in. In 1937 the crop was sold out three months before the new crop was ready.

The swing of interprovincial trade in honey is interesting to follow. Last fall carload producers in Alberta sold out leaving the home market to the small producers. Alberta honey is ready a little ahead of Manitoba. In the past six weeks six carloads of Manitoba honey were sold in Edmonton.

It cost 90 cents a hundredweight to deliver honey in carloads to Vancouver, 91 cents to Montreal, more than twice the cost of shipping wheat, although honey is carried in the same style of car. Honey in transit is not affected by changes in temperature and does not leak from the cars like grain.

At the Royal Agricultural Fair at Toronto, Manitoba honey in the granulated form (the form in which the bulk of the crop is marketed) has won first place every year but one since the classes opened, which covers pretty well the question

of quality. The province of British Columbia, being a province that borders on the sea will never be able to produce her market requirements in honey. We have been invited to send them annually half a million pounds of honey. They say, "Tell your people in return to eat lots of B.C. apples." When I looked up the figures I found that we in Manitoba buy 1,000 cars of their fruit. We also know that the eastern provinces of Canada can ship their honey by water via the Panama Canal just as cheaply as we can by rail. We are now shipping twice as much honey to Vancouver as the province of Ontario and we hope to build that business to greater proportions, but the process could be greatly speeded up if a better rate could be secured. If we eat more apples and they eat more of our honey we and the railways will both benefit.

As far as export markets are concerned we sent about 40 carloads to the United Kingdom last year. We were enabled to do so because of a reduction in transportation rates secured in 1936, for which we are duly thankful. We have sold this year about fifteen carloads. We also sent two carloads to Germany and there is a prospect of selling them more in the near future, but here again our long rail haul and high transportation charges enter into the picture.

Honey sold for export is packed in large bulk containers that hold 60, 70 and 75 pounds each. This honey is sold to bottlers who blend it with cheaper honey shipped from Jamaica and other countries where the quality of the product is poor but cheap in price. Our best quality is thus used to mix with and bolster up the quality of honey from other countries and when repacked it is generally sold in one-pound glass containers. There is no market for honey in small cans as handled in Manitoba. We have a new packing plant at Emerson that is handling our honey and packing it in a fancy one-pound glass container to fill a contract on the London market. This producer expects to ship four carloads as soon as bottled. This is the first effort to market our honey in its purity and we are hopeful it will be successful.

Manitoba can double its production of honey if we can get it out to the markets of the world. Let us out to the water and we can go places.

These are our problems as I see them and these problems are not hard to solve if transportation authorities can be made to see the light. Co-operation along this line would add more business to railroads and producers alike.

THE CHAIRMAN: I am sure you will all agree with me that is a very clear statement of the honey position as far as we are concerned in Manitoba, and also that it is worthy of our consideration here.

We will next hear from Mr. Ed. Braun, of the Dominion Experimental Farm, Brandon.

THE HONEY INDUSTRY AND MARKETS FOR HONEY

by

ED. BRAUN

DOMINION EXPERIMENTAL FARM, BRANDON, MAN.

MR. CHAIRMAN, LADIES AND GENTLEMEN: Before I start this short discussion on honey marketing I would like to state as a representative of the experimental farm system that we wish to express our appreciation to Premier Bracken for giving us this opportunity of being present at this conference on markets. Knowing that Mr. Floyd was going to cover the provincial field I prepared a paper more

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or less on the honey production and marketing situation in the Dominion of Canada, taking it more from the Dominion standpoint rather than from the provincial standpoint, I would like to state for the benefit of the press that any statements which I may make have not been authorized either by my immediate superior or by the authorities at Ottawa, and I hope they will be understood as my own personal statements rather than representing the Dominion government.

From 1901 until 1922, Ontario and Quebec beekeepers produced approximately 95 per cent of all the honey produced in Canada. The annual Canadian production increased from 3½ to 6½ million pounds during these 21 years (1901-1922). From 1924-1927, Canada's average yearly honey production ranged from 6½ to 20 million pounds. The average yearly production, for the ten-year period, 1927-1936, amounted to 25 million pounds. In 1929, the peak production year, approximately 31 million pounds of honey were produced.

At the present time, three provinces, namely Ontario, Manitoba and Quebec, produce approximately 98 per cent of all the honey produced in Canada, in the following ratio: Ontario, 54 per cent; Manitoba, 27 per cent; and Quebec, 17 per cent. Honey production in the Maritime provinces is negligible but Saskatchewan and Alberta are rapidly increasing their annual output.

The domestic market of honey in Canada has gradually receded in price per pound, from 16 cents in 1924, to 8.4 cents in 1936. The annual price reduction has varied from one to two cents per pound. The price per pound in 1929 (the peak production year) was 11 cents, and although Canadian production has never exceeded that of 1929, the price per pound of honey has gradually continued to decline. The amount of honey, annually exported from Canada since 1924 has remained fairly constant, (being between 1½ to 2½ million pounds), depending somewhat upon the annual amount of honey produced. Therefore, it is rather difficult to understand why the market price of honey should have continued to recede from 1929 price.

The price reduction in honey, per pound, between the 1924 and 1936 price, is approximately 50 per cent. The price for refined Canadian beet sugar has only declined 35 per cent, while the annual production of beet sugar has been increased 66 2/3 per cent, during the same period of years.

Let us consider for a moment the average prices realized for honey in the various provinces of the Dominion. These average prices are based on the three years 1934-35-36.

Prince Edward Island	9.7	cents
Nova Scotia	15.1	"
New Brunswick	12.7	"
Quebec	9.4	"
Ontario	7.9	"
Manitoba	7.4	"
Saskatchewan	10.4	"
Alberta	9.3	"
British Columbia	11.2	"

These honey prices indicate that beekeepers in Ontario and Manitoba have realized the lowest prices of any of the provinces. The Manitoba market price being one-half cent per pound below that of Ontario, whereas the average Manitoba production is only a little more than half of the Ontario production. Furthermore, the price differential indicates, that all other factors being equal, cheaper honey from Manitoba and Ontario would flow into the other provinces. This condition actually exists and numerous complaints have been heard from the beekeepers in the various provinces where their own market has been glutted with the cheaper Ontario and Manitoba honey.

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The honey market in Great Britain has requested and been supplied with a fairly constant amount of Canadian honey; the Canadian honey being used for blending with the cheaper Guatemalan and Jamaican honeys. The prices realized by producers on Canadian honey have ranged between 52 and 42 shillings per hundredweight (112 pounds). The following extract from the Canadian Trade Commissioner's report (June 4, 1938) on honey marketing in Great Britain, speaks for itself:

"But Canadian honey has no monopoly on the market; it could be replaced, and sometimes is to a considerable extent in blends, whenever its price reaches too high a level.

These factors are obviously of great importance in any organized marketing scheme. At the same time it is believed by those who have made a close study of the situation that an improvement by some method of co-operation among producers which would eliminate or restrict the numerous offerings of honey on this market at prices below established market levels. It is the frequent undercutting of the market that so often results in Canadian honey selling at levels unattractive to shippers in Canada and which at the same time so seriously affects the position of importers in the United Kingdom."

The latest quotation on Canadian honey in the London market is 38 shillings.

New Zealand honey marketed in Great Britain is controlled by a New Zealand Honey Marketing Board. This honey board equalizes the price of honey paid to the primary producers on the average price obtained between the domestic and export sales.

Exports to Germany have increased in the last few years. However, in this case, the German system of dealing by exchange of goods instead of currency tends to provide an unstable price for Canadian producers.

Manitoba exports to other provinces, and foreign countries for the years 1935-36-37-38 are as follows:

	1935	1936	1937	1938
Great Britain	16	13	
Germany	2	
Ontario	5	..
Quebec	4	..
Saskatchewan	1	5
Alberta	1
British Columbia	1	1

The new Dominion grading regulations requiring export permits for overseas but not for interprovincial trade, have provided some measure of control on the quality of honey exported but this has also caused considerable loss to primary honey producers because the grading basis has been largely on moisture content. Unscrupulous brokers and buyers have utilized the grading regulations to drive hard bargains with the producers of honey, thus tending to demoralize prices in the local markets.

FUTURE MARKETING PROBLEMS

If the increased annual production in Manitoba and Saskatchewan, for the next ten years, is maintained at the same average rate as for the past ten years, then we can roughly estimate that an average of ten and eight carloads, respectively, for Manitoba and Saskatchewan, will be annually produced over the present production figures. This may seem a small amount but multiply by ten and you find that from 100 to 80 carloads annually will materially intensify the honey marketing situation. However, Mr. J. W. Braithwaite, president of the Manitoba Co-operative Honey Producers Ltd., can more adequately outline the measures which have been taken by the primary producers in Manitoba to alleviate the chaotic conditions which at present exist in the Manitoba honey market.

RECOMMENDATIONS ON MARKETING HONEY

- A. Education:
 - 1. Research—
 - (a) That recipes recommending honey be tested in the laboratories and that such recipes be compiled and issued in published form.
 - (b) That new uses for honey be studied, so as to obtain a wider use of honey by the public.
 - (c) That more accurate statistical data be obtained on the marketing of honey in the various provinces of the Dominion.
- B. Advertising:
 - 1. Honey advertising should be on a Dominion basis.
 - 2. That bulletins, pamphlets, etc., on the uses of honey be more widely distributed.
 - 3. Radio advertising would probably increase the per capita consumption of honey.
 - 4. It has been suggested that if two cents per colony were obtained from the 400,000 colonies in the Dominion, there would be available approximately \$8,000 for advertising purposes.
- C. A standardized product:
 - 1. Dominion grading regulations enforced by having inspectors see that the honey, after grading, is stamped or marked according to the grade.
 - 2. Processed or pasteurized honey would materially assist in standardizing marketable honey.
- D. Export honey:
 - 1. That strict supervision be employed so that markets established overseas will be maintained indefinitely.
 - 2. Export quotations on honey be supervised with a view to preventing price cutting.
- E. Domestic market:
 - 1. Try to find new methods of popularizing honey and honey products. The means of such tests to be supplied by the Home Economics Branch of the University.
- F. Freight rates:
 - 1. That freight rates on honey be equalized on a basis where it would compare more favourably with wheat (carload lot basis).

THE CHAIRMAN: Thank you, Mr. Braun. We will now hear from Mr. J. W. Braithwaite, President of the Manitoba Co-operative Honey Producers: Mr. Braithwaite.

THE HONEY INDUSTRY AND MARKETS
FOR HONEY

by

J. W. BRAITHWAITE
PRESIDENT, MANITOBA CO-OPERATIVE HONEY PRODUCERS LIMITED

The problem of marketing honey is directly connected with the problem of its production. Since production has been dealt with by the Provincial Apiarist, we will endeavour to restrict this discussion to the marketing problem itself, seeking your indulgence if some duplication of what has already been stated is found necessary.

The successful marketing of honey, as in the case of other primary products, is more or less dependent upon the financial resources or purchasing power of the consuming public. In considering this problem we must, therefore, take into

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account the economic upheavals, either at home or abroad, which have directly or indirectly affected the marketing of our product.

In view of this we will divide the history of honey marketing into three parts, viz: The War Period, 1914-1918; Post-war Period, 1919-1929; and the Depression Period, 1930-1938;

THE WORLD WAR PERIOD—1914-1918

The annual production of honey in the Dominion of Canada, and in the province of Manitoba particularly, was relatively low during this period, some 6,000,000 and 1,000,000 pounds respectively being produced. Due to the rationing of cane sugar for domestic use, by the War Food Board, honey, being readily substituted for cane sugar, was required in larger volume than hitherto, and all the honey that could be produced was readily sold at approximately 25 cents per pound. The number of beekeepers and their holdings in number of colonies increased by leaps and bounds. The increasing popularity of sweet clover as a fodder for cattle, its general adaptability and ease of culture, coupled with its nectar-secreting propensities, doubled and in some cases trebled the yield of honey per colony of bees. The price per pound of honey remained fairly stable throughout the war years.

THE POST-WAR PERIOD—1919-1929

The subsidence of the world war impetus on beekeeping, together with its inflated price structure, the removal of the restriction on the use of cane sugar, and the continued increase in honey production resulted in lowering the price in 1923 to 22 cents per pound, after which the price of honey in Manitoba steadily declined, as follows: 1924—18-20 cents, 1925—15 cents, 1926—15 cents, 1927—13 cents, 1928—13 cents, 1929—12 cents.

The prices of manufactured bee supplies retained their war time level during the post-war period, and from 1927 to 1929 it was only volume production which allowed beekeepers to make a reasonable return for labor involved and money invested.

During this period disease, in the form of A.F.B., appeared and reduced net returns in many districts, causing many beekeepers with a small number of colonies to sell their bees and equipment, and to discontinue beekeeping. A proportionate number of larger beekeepers were discouraged by the persistent recurrence of the disease and the provincial policy which rightly forced the destruction of all bees infected.

However, in spite of the factors noted, there was recorded a steady increase in the number of beekeepers in all the Prairie provinces, and beekeeping came to be regarded as a full time occupation instead of a hobby, as had generally been the case hitherto, and with the advent of commercialized beekeeping the producers of carload quantities had, of necessity, to secure markets outside of their own local communities.

Prior to, and during this period, Ontario and Quebec beekeepers had been able to dispose of their surplus honey in the Prairies provinces. The high yields and rapid increase of beekeepers and colonies of bees in Manitoba forced the eastern provinces to dispose of their honey in Saskatchewan and Alberta, and it was during this period that the province of Ontario commenced to develop an export market in Great Britain. Manitoba beekeepers during some years in this period produced more honey than the consumers within their own province demanded, and naturally sought markets in Saskatchewan and Alberta, in direct competition with Ontario. This competition naturally resulted in price reductions to the primary producer. Further, producers lacking contacts in distant markets offered their honey through the medium of brokers handling other food products, thus bringing a further reduction in the price received because of the brokerage commission involved.

THE DEPRESSION PERIOD—1930-1938

Saskatchewan and Alberta beekeeping history was practically the same as that of Manitoba, with slightly slower progress due mainly to the ravages of grasshoppers and drought, which affected larger portions of these two provinces than was the case in Manitoba.

In Manitoba, with exceptions due to short crops either at home or elsewhere in some years, beekeeping conditions have become worse and worse during this period, and honey prices have declined far more seriously than prices of similar lines of foodstuffs, and out of all proportion to the merits of the situation. The average Manitoba carload price for honey during this period has been as follows: 1930—9 cents, 1931—7 cents, 1932—7 cents, 1933—8 cents, 1934—8½ cents, 1935—7 cents, 1936—6 cents, 1937—7 cents, 1938—6½ cents, (estimated). For this condition, be it admitted, the beekeepers are very largely to blame. The absolute lack of organization within their ranks has left them the easy victims of a competitive marketing system where price is often the main consideration.

Of all the primary products produced in this province surely honey is the only one with absolutely no semblance of a marketing organization, and with no common idea or policy where the marketing of the product is concerned. The only effort at organization in the ranks of the beekeepers prior to 1938 found expression in the Manitoba Beekeepers' Association, a very passive organization, representing less than ten per cent of the registered beekeepers of the province. Their get-togethers mainly consisted of a summer picnic or field day, and an annual convention at Winnipeg each January.

Some good has been done by this association in an educational way, in the considering of legislation concerning beekeeping and in the making of representations to governments or controlling bodies from time to time.

For the past four or five years also, the executive of the Beekeepers' Association, after considering all the available honey crop news and conditions, has recommended to the beekeepers of the province a minimum honey price for their product. Unfortunately, although later developments have invariably demonstrated that the price suggestion was reasonable, only in isolated cases has this price been realized by beekeepers, and the price suggestion has now come to be regarded as a joke in some quarters.

Speaking generally, beekeepers as a class are not in good financial circumstances. In a large percentage of cases bees themselves, supplies and equipment, and also honey containers are purchased upon credit, with the result that producers have usually no option but to sell their honey immediately it is extracted in the late fall of the year. This results in a glut upon the local market, a buyers' market with all that that implies when the sellers are many and unorganized, and an inevitably lower price than that which conditions warrant.

Marketing conditions have not been improved by the variation in quality and preparation of the product. Grading regulations introduced a few years ago have helped to some extent, but these are absolutely ignored by many who produce honey for local consumption, and there seems to be no effort at enforcement on the part of the authorities concerned. As a result, Manitoba honey (at its best, second to none in the world) is offered for sale in varying colors, textures and flavors, usually in fair condition, but all too frequently fermented, dirty, and unsavory samples are reported with a tremendous and unfavorable reaction upon the minds of potential honey purchasers.

Added to this must be noted the fact that honey is packed in all sorts and conditions of containers, and that the sizes most generally used in Manitoba are out of line with those used for the comparable products of jam and syrup. The buying and selling of honey within the province (chiefly confined to the city of Winnipeg) has been for some years a most unethical business, with unfair dealing and chiselling on both sides. In many instances brokers and wholesalers have not given beekeepers a reasonable break, but it must also be recorded that in all too many cases the beekeeper has been the worst offender of the two, and that

buyers have not received quite a square deal, while over the whole business there exists an atmosphere of fog and uncertainty. Honey producers, not really knowing either the intrinsic or practical value of their product, have felt that the broker or dealer has been getting the better of them in their dealings. On the other hand brokers and wholesalers have occasionally had the exasperating experience of finding producers first selling honey to them and then turning around and selling further stocks to retailers or even actual consumers at the same or lower prices.

In the case of Manitoba honey marketed outside the province, a similar sad story must be told, and complaints have been received from Saskatchewan, Alberta, British Columbia and Ontario at the low price at which carloads of Manitoba honey have been dumped on the markets of those provinces to the detriment of their own beekeepers. Similarly on the export market the Canadian Trade Commissioner reports price cutting and offerings below the market level on the part of certain brokers, which has resulted in Canadian honey selling at levels unattractive to shippers in Canada, and which at the same time seriously affected the position of importers into the United Kingdom.

As a result of the practices outlined above, and others too numerous to mention, the marketing of honey in Manitoba has reached a situation and condition which is desperate indeed.

THE CO-OPERATIVE EFFORT

For some years prior to the 1937 convention of the Manitoba Beekeepers' Association there had been evinced at the conventions a growing feeling that something might be done along co-operative lines to rectify, or at least better, the difficult sales situation. One abortive effort to set up a sales organization had been made in 1921, but it fizzled out in the face of a short crop and consequent better honey prices.

At the 1937 convention the matter came up as usual, but this time something was done about it. After much discussion a committee was set up to investigate the possibilities of such a co-operative with instructions to report to the 1938 convention. During the ensuing year, two members of this committee, Messrs. Ed. Braun and J. W. Braithwaite, gave a lot of time to the subject and also, through the good offices of the Manitoba Co-operative Promotion Board and the Beekeepers' Association, were able to make a trip to Toronto to look over the plant of the Ontario Honey Producers' Co-operative, which, by the way, was found to be functioning very satisfactorily. This committee gave a very full report at the Beekeepers' Convention in 1938 and after due discussion it was decided by the convention to proceed with the organization of a co-operative along the lines recommended by the committee and based largely upon the set-up of the Ontario organization.

Briefly, the main functions of the co-operative will be to blend and process (or pasteurize) the honey received from its members so that a high standard quality product uniform in colour, flavour, and texture will result. The honey will then be packed in attractive containers under registered brands, and placed upon the domestic market for the consuming public. Export markets will be sought and cultivated, possibly in collaboration with the co-operatives of other provinces, or ultimately through a central selling agency for the disposal of surplus stocks of honey.

Shortly after the convention, the committee appointed approached the Manitoba Co-operative Promotion Board with a complete outline of their project, and made application for a grant of \$1,000 towards organization expenses. After due consideration the application was approved and the full amount granted, and steps were immediately taken to set up the new co-operative organization. By-laws were drawn up and approved, application for charter was made, and in due time the company was incorporated under the name of Manitoba Co-operative Honey Producers Limited.

Since that time the work of organization has steadily proceeded, but has been faced with many difficulties, chief of which may be recorded; the amount of share capital necessary, and the size of the territory. We will deal with these individually.

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SHARE CAPITAL

I cannot call to mind any co-operative effort in Manitoba requiring so much initial share capital in proportion to the probable number of members, as our honey producers' co-operative. Other co-operatives have been able to commence operations on the proverbial shoe string by arranging for deductions to be made from produce returns as made to members. In our case this was considered impossible, as some \$25,000 is required in order to commence operations. Share values were set at \$20 and we have found beekeepers very sympathetic, but they have great difficulty in raising sufficient cash to take out shares commensurate with their investment as beekeepers, and show a too prevalent tendency to limit participation to one share, on the part of beekeepers who should assume greater responsibility.

THE SIZE OF THE TERRITORY

From the very nature of their calling, it is easy to understand that beekeepers must of necessity be scattered throughout the rural districts of the province. This has made personal contact very difficult and canvassing a matter of more time and money than would ordinarily be the case. Local meetings had, of necessity, to take in wide areas, otherwise the numbers attending would have been few, and the expenses involved proportionately greater. Very many of the best beekeepers of the province have not yet been directly contacted on account of the expense involved in visiting the outlying districts in which they live.

In spite of the difficulties which I have enumerated, the co-operative can report gratifying progress as the following information demonstrates:

Number of shares sold to date.....	748
Total cash received on same (including honey)	\$7,137.96
Number of beekeepers represented.....	419

It is interesting to note that we have received promises of upwards of \$1,200 worth of package bees from interested southern package bee shippers, to be sold and the proceeds from same to be recorded as contributions to share capital. This is not included in the above amount.

You may be interested to know that when the Ontario Honey Producers' Co-operative was organized some 17 years ago, the government of Ontario at that time made a grant of \$1,200 to cover preliminary expenses, and that the Ontario Department of Agriculture, through the Provincial Apiarist and his staff, carried out the work of organization. In the province of Quebec a beekeepers' co-operative has recently been inaugurated. The organization sold some 350 shares at \$10 each, thus raising \$3,500. The Quebec provincial government made a grant of \$6,000, and gave a guarantee to the extent of a further \$5,000, thus making a total of \$14,500. The Quebec beekeepers expect to have their plant functioning shortly.

As a contrast to both of the above, our Manitoba organization has not yet approached the provincial government for assistance with the exception of the request to the Promotion Board for the \$1,000, previously mentioned. We have preferred to paddle our own canoe, if possible.

The second meeting of shareholders of the company is to be held at Winnipeg, next January. At this meeting future plans for the organization will be formulated, and it may well be that, feeling that we have done all that can be expected in the attempt to work out our own salvation, we may decide to appeal for assistance to the provincial government, and I am sure that you will agree that our cause is worthy of their sympathetic consideration.

PREMIER JOHN BRACKEN in the Chair.

THE CHAIRMAN: I am sure you would all wish me to compliment the beekeepers of western Canada on the development of that relatively new industry. I am sorry that they seem to be suffering from the same kind of disease that every

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group of our farmers seem to be suffering from, producing a little more than the market will take at a paying price. It is a strange commentary on our ability to run our own affairs that the more we produce in order to keep humanity from starving the less we get for it. That is the real challenge we have to face today.

Thursday, December 15, 1938.
9.30 a.m.
Hon. J. G. Taggart in the chair.

THE CHAIRMAN: I am pleased to be associated with Premier Bracken at this conference, and to assist by presiding at this session. We have been dealing for the past three days with wheat as our major topic, because we recognize that wheat is the major agricultural product of western Canada, and I think the major problem of all Canada insofar as marketing is concerned. But we recognize that Canada has other natural products of great value to the nation, and of great value to the individual concerned with those products. As wheat growers we are calling upon other people to recognize our problem, and to take an intelligent view of it and understand it, and we should at least reciprocate by trying to understand the problems of other people elsewhere in Canada. One of our greatest difficulties is that we wheat growers of western Canada have concentrated entirely on wheat, discussed in terms of wheat at all times, and insisted that everybody else do the same thing. That is all very good as far as we are concerned, nevertheless, our insistence upon that point places upon us the obligation to do the same thing with respect to the primary products of other parts of Canada and other people within our provinces, and to also extend our horizon a little bit farther to understand the interests of all other productive units in the country.

With that introduction I want to call on our speaker of this morning in the person of Dr. W. A. Found, Deputy Minister of Fisheries at Ottawa. Dr. Found has been in that position for many years and has had a long and honourable association with his work. My experience as a civil servant of some minor importance in the Dominion service for a number of years has instilled in me a profound respect for the deputy ministers. The deputy minister in the federal service, unlike the provincial service, is a man of authority, power, and responsibility, and a man who moreover influences all those who work under him to a very great degree. Dr. Found having occupied that important position, and that important relationship to the industry, is a man who is eminently qualified to speak to us on markets for Canadian fresh water fish, with special reference to Manitoba fisheries. (Applause.) Dr. Found.

MARKETING PROBLEMS FACING THE FRESH WATER FISHERIES IN GENERAL AND THOSE OF MANITOBA IN PARTICULAR

by

DR. W. A. FOUND

DEPUTY MINISTER, DEPARTMENT OF FISHERIES, OTTAWA

MR. CHAIRMAN, LADIES AND GENTLEMEN: I wish to thank the Chairman for his very cordial introduction. May I begin on a personal note, as the past few days have provided for me a new and intensely interesting experience.

Having been born and brought up on a farm, it has never been difficult for me to appreciate the farmer's difficulties and problems, and his point of view. Though for more than 40 years the problems of the fisherman and related ones have been my life's work—and they have been exacting enough to make each day seem too short—I did think, that at least in a general way, I understood pretty well, the

problems of the western farmer, and what it means to Canada, the Empire and the world, too, that he should be enabled to do his fair part towards maintaining and building up its advancement and enjoying in reasonable measure the results of his contribution.

I was none the less looking forward to this conference to gain a clearer comprehension of the whole situation and I certainly have not been disappointed. It has kept me fairly gasping to keep up with what has gone on. It has been more than a mental bath. It has been a real cataract of information—much of it cold enough too—but fortunately not without some warming sprays of optimism.

There surely can be no doubt that as the data brought out at this conference becomes digested in the East and West, the purpose of this conference will, at least in an important measure, be served.

A few months ago it was my privilege to participate in a large conference at Halifax that was made up mainly of representatives of those engaging in the different branches of the Nova Scotia sea fisheries. It too was presided over by the premier of the province, assisted by the federal ministers of the Crown concerned, as the federal government administers these fisheries. In some respects it was in striking contrast with this conference, as it had to do with products of the sea. In others it was strikingly similar, as fundamentally the problems dealt with were the same—insufficiency of demand for existing supplies that could be readily and largely increased, and inadequate prices for present production. I mention this to emphasize that, unfortunate as it is, the grain growers of the West are not alone in having to grapple with tremendously difficult problems.

As the federal government has not been administering the fisheries of the Prairie provinces since their natural resources were handed over to them some eight years ago, I am sensible of the compliment involved in asking me to make a statement that will afford a background for discussion on "Markets for Canadian Fresh Water Fish, with Special Reference to Manitoba Fisheries."

As we have not been administering these fisheries for so many years, I have, in the nature of things, lost close touch with the local, and even sectional difficulties that seem bound to arise from time to time. On the other hand, as we seek to follow conditions and trends in the industry, not only in Canada, but in countries where the industry is competitive with ours, I think I understand the general picture, and I shall try to set out as clearly and as concisely as I can the major facts as I conceive them to be.

Canada's fisheries occupy a place of growing importance in her economic life. Last year the marketed value of our fisheries was, in round figures, \$39,000,000. Of this amount, the fresh water fisheries contributed about \$7,000,000, Manitoba's share being nearly \$1,800,000.

Canada's exports of fish and fish products last year reached a value of \$28,834,000. The exports to the United States alone amounted in value to \$14,195,000. Of this latter amount, the fresh water fisheries accounted for \$5,295,000, or over 37 per cent. It is not possible to determine what portion of the value of the exports is attributable to any particular province.

Our fisheries afforded direct employment to nearly 84,000 persons. Of these, over 7,600 were engaged in the fisheries of the Prairie provinces, nearly 3,800 being in Manitoba alone.

Manitoba ranks second as a producer of fresh water fish, Ontario of course, holding the premier place. Quebec, Saskatchewan and Alberta follow in that order. As the map is rolled up towards the north, the fisheries of the Prairie provinces may be considerably increased.

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Every fishery is faced with at least two problems. One is adequate protection to assure maintenance of the supply. The other is sufficient, remunerative markets. The latter only will be considered here.

Canada's so-called fishing industry involves a number of separate distinct industries, which may or may not be more or less integrated. Though a number of them are complementary, several of them are competitive with each other.

On our Pacific coast we have a very large canning industry, a fresh and frozen fish industry, a fish reduction industry, etc. On the Atlantic, there is a large dried and pickled fish industry, a fresh and frozen, including smoked, fish industry, a canned fish industry, a lobster industry, a smelt fishing industry, etc.

Practically all of these stretch out to the interior of the country in looking for markets and, to some extent, compete there with our fresh water fisheries, which in themselves are another and quite distinct branch of the industry.

While the products of our sea fisheries compete in the markets of the world with similar products from other countries having important sea fisheries, our fresh water fisheries are, and it seems to me always must be, restricted to the markets of Canada and the United States, as they cannot compete in price in outside markets with sea fish, which, owing to existing world conditions, and particularly those prevailing in Europe, are generally in greater supply than the demand.

While with better organization, it should be possible to increase the sale of fresh water fish to an important degree in our prairie markets, owing to our relatively small population and its character, Canada must have to depend largely, for a long time at least, on the markets of the United States for the major outlet for its fresh water fish. Consequently, we should not overlook the fact that the United States is itself a big producer of such fish. Indeed, from a poundage standpoint, it is a much larger producer than we are. For instance, in 1931—the latest year for which comparable United States figures are available—the production of fresh water fish in that country was over 134,000,000 pounds, while in Canada it was about 68,530,000 pounds. It is true that a large proportion of the United States production is of varieties that are inferior to ours, but their production of such fish as whitefish, pickerel, lake trout, pike or jackfish, ciscoes or herring, including tullibee, is nearly equal to ours. There is, therefore, a common interest amongst the producers and merchants of both countries.

Fresh water fish of the better varieties always seem to find a preferred demand amongst the people of Jewish origin, of whom there is a very large number in the United States. From time immemorial, these people have had a strong predilection for fresh water fish, and fortunately, there is no indication that they are losing it.

By far the greatest concentration of people of Jewish origin in the United States is in New York city, where they number about two million. It is probable that this explains why New York is by long odds the largest market for fresh water fish on this continent. Also, it is probably unique in that the consumption of fresh water fish there is nearly altogether by the Jewish people. In all the other centres, with a possible exception of Philadelphia, the demand is quite largely amongst people of other origins.

It would probably be safe to say that New York consumes more fresh water fish than all the other principal fresh water fish importing markets in the United States that import Canadian fish put together. Geographically, Manitoba and the other Prairie provinces are at some disadvantage as compared with the Great Lakes areas of both Canada and the United States in reaching the New York market. Shippers are also faced with the fact that the principal, and really only important market for fish there is on Mondays and Wednesdays, so that disappointment is nearly sure to follow shipments on consignment reaching there later than Wednesday of any week.

While Chicago, as well as New York, provides markets for Canadian fresh water fish in summer as well as winter, the other United States importing centres,

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such as Detroit, Buffalo, Minneapolis, St. Paul, St. Louis, Philadelphia, Kansas City, Green Bay, Duluth and Cleveland mainly confine their importations to the winter months.

The experience of years warrants a sense of confidence that there is in the United States, notwithstanding the sales pressure for other foods, a sufficient demand to absorb both the production from the fresh water fish industry of the United States and Canada's surplus; but if these markets are to be as remunerative as they should be, slipshod, unorganized and largely uninformed methods of marketing and control of production are not good enough.

Shippers of fresh water fish from all producing areas seem to have more or less common experience. When fish are scarce, good returns on shipments are obtained, but when they are plentiful, such returns are apt to be unsatisfactory. Claims of short weights and inferior quality are likely to be made, and collections, even on reduced inventories, may be slow or impossible, as consignees sometimes go into liquidation even without the process of bankruptcy.

Shippers have realized that their business could be placed on a sound remunerative basis if:

- (a) they had adequate information about consignees and patronized responsible ones only;
- (b) there were proper grading and an assurance of quality of consignments;
- (c) glutting of markets were guarded against through organized action.

Efforts to bring about such conditions, or at least some of them, have more than once been made by branches of the industry, but without much success, owing apparently to lack of continued co-operation and no authority to require it. The very great difficulty involved with such a scattered industry is obvious enough. The problem, however, is vastly simpler than that of wheat, for instance, or even the sea fisheries, as the important producing areas embrace a relatively small portion of Canada and the United States and the markets are all in North America.

Discussion may serve to clarify the possibilities.

In closing, I wish to emphasize that notwithstanding the bitterly hard times the fishermen, not only of the Prairie provinces, but of Canada generally and of the world, have experienced in the past number of years, and although their present earnings are far too low, the trend in the industry is distinctly upwards. Nineteen-thirty may be regarded as a reasonably normal year. That year the marketed value of the fisheries of Manitoba was over \$1,800,000, and of the Prairie provinces as a whole over \$2,467,000. By 1933, the value of the Manitoba fisheries had slid down to \$1,070,000; or a drop of over 40 per cent, and that of the Prairie provinces as a whole to \$1,411,000, or a drop of over 42 per cent. From then on, however, there has been improvement. Last year, the value of the Manitoba fisheries was \$1,796,000, or practically the same as in 1930, and that of the Prairie provinces, \$2,757,000, or about \$300,000 greater than in 1930.

THE CHAIRMAN: I am sure we all appreciate Dr. Found's paper. It confirmed what I said at the beginning that people other than wheat growers in this country have problems. In fundamentals the problem of the fisherman seems to be like that of the wheat grower. We have a short time available for questions and discussion and I am sure Dr. Found would be quite glad to enter into a discussion, to answer questions or to clarify any points which may still not be clear.

PREMIER BRACKEN: I would like to ask Dr. Found a question. You are quite aware I am sure that no class has suffered more from lack of prosperity than the inland fishermen of this part of the world, and I suppose when we do find a market our product competes with the product of other parts of Canada. Last spring it was my privilege to be in the Maritime provinces. It was just after we asked the government to guarantee a minimum price for wheat. As soon as I landed in Nova Scotia numbers of people came to me and said, "Are you in favour of a minimum price for

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fish?" A little later it was my privilege to visit some of the fishing communities, and later still to fly over the coast line of Nova Scotia, and see the little homes of the fishermen. I am wondering if the audience will permit Dr. Found five or ten minutes to tell us something of their condition.

DR. FOUND: Thank you very much for the opportunity of doing so. In preparing this paper I had a hard job to persuade myself not to discuss the difficulties of those who are also spending their lives in producing a food product. I will endeavour to keep within the limit of time, but I think in order to keep the situation clear, it is necessary for me to go a little farther back than even Dr. Mackintosh, in his eminently able introduction to the conference, went so far as the Canadian wheat grower is concerned, and deal with the phases of the fishing industry, and how it came to be where it is. I am speaking now of the sea fisheries.

How the sea fisheries began is, I assume, like agriculture clouded in the mists of something beyond tradition. We have every reason to be assured that like agriculture primitive man did not take long to find that a portion of his food could be drawn from the waters. His first exploits were in the waters that were more readily available to operate in, the streams and the small lakes, and the sea coast. It was very early learned that fish dried in the sun and air would keep almost indefinitely, was light in weight, and could be readily transported. If we were to let our minds go back to those primitive days one can see what advantage such a food would have, and what an attraction it would have, to peoples who had no better means of moving around than they had at that time. With that we find a demand becoming greater than supply, consequently the calling upon mankind to provide some means to supply that demand. So we come to the boat, the dugout, followed by the caravel, and so on. I merely want to give you this picture, that navigation was first used for seeking out fish, and as navigation to seek the fish developed it was used for other industries. It has been said that from earliest time, fisheries was the parent of navigation and the mother of commerce. I think that can be said without any qualification. How it developed I have not time to deal with, although the story you would find an extremely interesting one, if you have not made some close study of it.

Let it be enough to say that by the 12th century the sea fishing industry had developed to an extent that the hardy fishermen of what we now know as Norway, Portugal, and the Basque area of Spain, had provided themselves with vessels which enabled them to proceed on long sea journeys. Iceland was being resorted to for quite a number of years, and it now seems to be generally accepted by those who have made research that there can be little doubt that years before Columbus discovered America these hardy fishermen had made their way to the north shore at least of the Gulf of St. Lawrence. In any event, one of the first results of the discovery of North America by the Cabots, and its settlement later on further south by the Pilgrim Fathers in that area, was the establishment of what has come to be a great fishing industry. The trade and industry of that large area was first centered on the fisheries. The first exports from the New England States were fish. I just want to emphasize that to show the fundamentals of how the industry implanted itself as it did through all these years.

The industry was centered on the production of a cured fish product. Salting had come into use in the very early years, which introduced pickled fish and simplified the production of dried fish, for which there was a demand throughout the world much greater than the supply. Hence the people came to the Atlantic shores from the United Kingdom and from other parts of Europe. It was a ready means of making a livelihood. All that was needed was getting a little boat and going after the fish, and it didn't matter if they were scattered away along the coast, they caught the fish, cleaned it and dried it, and in the course of the year someone came along and bought it. It was not a perishable product. In that way little settlements grew along the shores. That was earlier true in Europe and in the United Kingdom.

In the United Kingdom in the '80's of the last century three things happened that began to make the fishing industry move into a new era. In this country it

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was 25 years later, the early 1900's. These three things were—I do not know which order to put them in; probably I should start with the possibility of getting to the consumer. The first was the development of railroads in the United Kingdom, which enabled perishable products to be readily and quickly transported to the centres of population; the second was the development of refrigeration, which made it possible to transport a fresh article in a fresh condition; and third, the completion of steam fishing vessels. These things placed the whole industry on a new footing, and made the production of fish for supplying the fresh fish market, which began to grow with tremendous rapidity, a much more paying proposition than that of drying it and selling it by barter or otherwise. You can imagine what the result was on the population. Those remote little settlements along the coast that for years had not found themselves isolated or remote began to find themselves in difficulty. They could not participate in the fresh fish market, they were too far away. But things began to happen. One was the movement of people to big centres, where the railroads could be readily reached; the other was inevitable, the urge of the people not to let this thing happen. These people living along the shore, seeing what was going to happen to them, tried to stem the wave. The same thing that happened in Europe is happening with us today, and happening under conditions that are peculiarly trying. Before the war, and before the depression there was a market for our dried fish, as well as the dried fish in Europe, a ready market. Such countries as Spain, Italy, Greece, as well as Portugal, in Europe, were providing markets for all the fish that Europe was producing, and Europe started in to increase its supply. Iceland in 1915 was producing about 215,000 cantles of dried fish. What happened within 15 years? Iceland was producing 1,500,000 cantles of fish. It went into big steam trawling development, and that all had to go on the same markets. These markets were also taking a good deal of Newfoundland fish. Canada was selling mainly to the West Indies, United States, and South America. But when we had Spain closed by war, and Italy closed up because it would not let money out of the country, what happened was what was bound to happen, the fishing population in Iceland and Norway had to live, they had to find a market, and the result was a drive on the remaining existing markets, and the purchasing power of these markets suffered in the very nature of things by the economic conditions that the world was experiencing.

Take the West Indies. In an investigation held there last winter from a fisheries' standpoint a striking bit of information was revealed, that in West Indies when people could get work they were getting 20 cents a day, and in the cropping season they were getting \$1.00 a day. How much fish or food could they import with those amounts of money?

I had an interesting talk with a gentleman I saw here in the audience last night, who seemed to think that the production of fish should not be allowed to an extent that would compete with the products of the farm. When I went to bed and began to turn it over in my mind, I wondered whether or not the fishing industry is a matter of moment to the grain growers of western Canada. When the fishing industry of the Atlantic coast and Pacific coast was prosperous it gave employment to about 80,000 people directly. I suppose it is fair to assume that dependent on the earnings of those 80,000 people were at least a quarter of a million people. These people have to live, have to eat, and they do not want to eat fish all the time. They have to buy flour and other food products. The equipment that they use in their production is very important, and there is a great amount of labour employed in all lines producing those things used in their production.

Last year from the sea fisheries alone \$24,000,000 worth of products were exported, bringing that amount of foreign money into Canada, for which no money went out of this country at all. I submit to you that the fishing industry is of interest and value to the grain growers of this country, and under normal conditions it will mean stimulating and increasing the general industry of this country.

Let me end by trying to indicate something of the position of the people of whom Premier Bracken spoke. Those who settled around the eastern coast of Nova Scotia, the coast of Prince Edward Island and the whole Gulf of St.

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Lawrence area, including the coast of Quebec, have been in the same position as those I spoke of in the remoter sections of the United Kingdom, with the fresh fish trade developing in Canada. That trade began with us in an important way in 1907, and since that time it has been growing with reasonable rapidity considering our population, and the barriers we had to get over to get fresh fish out of this country, but in the very nature of things that industry could not take care of more than a relatively small portion of the production of the Atlantic coast. The people who are geographically situated so that they could avail themselves of the market are not having a very comfortable time, but they are able to get cash for their products and have still been able to get along. But when we get beyond that we have that growing difficulty of the person who was just on the edge, the man next to that person able to sell his fish fresh, and he not, and wanting to get in with the man who can. There is discontent behind that situation. When you get behind that range to the man who has got to sell his goods in a cured condition in competition with countries who have got to live and are producing at a cost with which our people cannot compete and make a decent living, he has had to take in his belt more and more and in too many instances has reached the point where he cannot make a living without assistance. It was on account of that situation that the conference to which I referred in my opening remarks was held, when the fishermen were got together in Halifax, representatives in as large numbers as I see before me at the present time, to consider their problems. At that conference it was pretty difficult for a number of these people, living as they did on the rim of the wheel to appreciate how it was that the farmers in western Canada could be paid a subsidy for their wheat, when they had an entirely insufficient price for their product. I do not want to go into that aspect of the matter more than to merely urge what I think anyone can conceive to be the case. We are hoping that with the new trade agreement that has been made with the United States our Atlantic situation will be better, and that world conditions will so improve in the near future, that a different picture can be painted than it has been necessary for me to describe to you as being the present one on so many sections of the eastern and Gulf area of the Atlantic coast. (Applause.)

THE CHAIRMAN: We have reached the time for our next paper, but if there is a question or two we can take a few minutes on that.

A VOICE: As one who spent my boyhood years in the situation which Dr. Found has just described to you, on the shores of Nova Scotia, I want to substantiate what he said by briefly commenting that insofar as the fishermen of Nova Scotia are concerned, to my own personal knowledge and the experience of my friends and relatives still in this lamentable condition, that their condition insofar as marketing is concerned is just as hopeless and just as difficult as our marketing conditions even before we had done anything. The condition of their homes—they cannot be called homes—are similar to the homes in the worst of our drought areas. That in my judgment is sufficient to indicate to us people in the West that their condition requires a more serious and sympathetic consideration.

MR. W. J. LINDAL: To change the course of the discussion just for a moment, in the light of the treaty and the rapprochement by that treaty, may the fishermen of Manitoba entertain any hopes that the attitude of the United States toward the importation of tullibees from Lake Winnipeg be modified?

DR. FOUND: Mr. Chairman, I am afraid that is a problem that is not affected by tariffs. It is one of administration on the part of United States food and drug authorities. It has been a very distressing experience, as the tullibee in my days of close contact with Lake Winnipeg, had reached a development of something more than 10,000,000 pounds a year, which was finding a ready and desired market in the United States. But the attention of the food and drug authorities was called to the fact that the Lake Winnipeg tullibee has parasites to some extent. We did immediately have an investigation and it was demonstrated beyond any question that these parasites are not harmful, they will not resist either freezing or cooking temperatures. All agriculturists know that tullibees are not the only articles of food that unfortunately are subject to parasites, but the United States food and drug administration regarded them as being under their Act not such as should be

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admitted to the United States. It is not a question of tariff. About that time the tullibees being taken from western waters were taken practically only from the areas of Lake Winnipeg, but it is quite remarkable how that picture has been changed, and all the provinces are now producing tullibees and there is a considerable exportation to the United States. All I can say is that the federal fisheries authorities and all the authorities concerned are alive to the importance of the situation, and will not lose any opportunity of doing anything they can to have a less drastic view taken on the matter than has been taken in the past. I sometimes wondered, as these fish marketed in the United States were 98 per cent smoked, whether there is not a possibility of development in that direction of meeting some of the difficulty.

MR. JONASSON: Mr. Chairman, I do not think it is necessary to go into detail as to the economic situation in our history with which we are all familiar. I was very much disappointed—maybe I am wrong—when I discovered there was no consideration given to a reduction in tariff on our prairie products of fish in the treaty with the United States.

DR. FOUND: Let me interject, Mr. Chairman. Mr. Jonasson's statement rather surprises me. In the 1935 treaty the freshwater fisheries got a reduction of a quarter of a cent, and the recent treaty has extended that consideration to all their other important fresh water products.

MR. JONASSON: I had reference to this last treaty. In the last few years the price of our fish has declined very considerably, and even with the three-quarters of a cent tariff, when fish is selling as low as one and two cents a pound, it is a rather high tariff, particularly when it is so desirable and so much required to fill the needs of the United States. I was hoping that something was going to be done about a further reduction owing to the depressed condition of the industry.

There is another matter I was very disappointed about, when I saw cars of fish being shipped from the eastern provinces, from the Maritime provinces, to Saskatchewan, when Saskatchewan was over-burdened with their own product, and unable to market their own fish. They brought fish in from the eastern provinces to supply for relief purposes in Saskatchewan. It must cost considerable money to bring fish from the eastern provinces into Saskatchewan. Right at this moment there are several cars of Saskatchewan fish in Winnipeg begging for sale.

DR. FOUND: I can't speak for the government policy but I might point out that the federal government, out of the taxes of the people of this country, were providing relief for a section of the country that greatly needed relief. By purchasing the type of fish they did they got a quantity of fish that was much lower in price than what they would have obtained if they were paying the prices that were asked and being obtained and so provided a much larger amount of food for the same money that could otherwise have been done.

THE CHAIRMAN: Perhaps I might be permitted to give a reason why that was done. While I must confess I had no particular knowledge of the problem, in connection with this distribution of fish purchased by the Dominion government, that commodity went to people over a wide area where there are no facilities, or few facilities, for keeping fresh fish. Distribution was made at a time when fresh fish could not be distributed. Fish of a type which are not obtainable in western Canada were distributed where they were badly needed. It seems to me that the people of western Canada should if possible supplement their diet with sea fish, and the people who live on the coast should supplement their diet by purchasing food products grown in the interior. We all know there are certain large areas in western Canada where people and livestock suffer from deficiency diseases. One of the most common deficiencies is iodine, and I believe we find that in the region where our fish are caught and I would suggest that the fishermen of the interlake area of Manitoba and the other areas where there is a deficiency of iodine should buy and eat more codfish from Nova Scotia. That is one of the reasons why salt water fish were imported into Saskatchewan this year and last year.

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We return now to what may be regarded a more strictly agricultural problem, a problem which has a close relationship to wheat. That discussion is to be opened by Mr. A. M. Shaw, formerly Dean of Agriculture at the University of Saskatchewan and now Director of Marketing Service, Department of Agriculture, Ottawa. He has spent many years of his life studying the problem with which he is to deal this morning. I do not need to spend any time describing Mr. Shaw's qualifications. I think he is known to everybody in the room, and his qualifications to discuss this important topic. Without any further remarks I introduce Mr. A. M. Shaw, Director of Marketing Service, Department of Agriculture, Ottawa, to discuss the problem of Export Markets for Western Cattle. Mr. Shaw.

THE PROBLEM OF EXPORT MARKETS FOR CANADIAN CATTLE

by

A. M. SHAW

DIRECTOR OF MARKETING SERVICE, DEPARTMENT OF AGRICULTURE, OTTAWA

MR. CHAIRMAN, LADIES AND GENTLEMEN:

I first want to state how much I appreciate the opportunity of attending this conference. I would like to compliment Premier Bracken on the initiative he has shown in gathering together a group such as we have had here the last few days. I regret I was unable to be here on the opening day, but since my arrival I have listened with a great deal of interest to the papers that have been given on the various subjects, appertaining largely to the wheat problem of these western plains. The wheat problem probably is the largest or most important problem in connection with Canadian agriculture at the moment. But along with it of course, we find the other agricultural commodities closely allied. A number of speakers have mentioned the difficulties involved in developing or finding alternative agricultural practices that tend in a very great measure to alleviate the grain growing situation. That I think is the thing that has to be faced by everyone familiar with agriculture in Canada, the fact that this country perhaps, more than some others, is limited in the alternatives the farmers have in diversifying their activities. There are large areas in this country perhaps suited to a much greater degree to the production of one type of product. Some other countries with which we compete have advantages in that regard in that their soil and climatic conditions are such that they can alternate their productive activities or diversify them more easily than we can. That is fundamental in developing an agricultural industry and in competing on a world market with any particular agricultural product. The man who has most alternatives usually has an advantage, and we must not lose sight of that fact in connection with a search for an improvement in our condition. The subject which has been assigned to me to discuss today is one dealing with the problem of Export Markets for Western Cattle. I have taken it upon myself to change the word "Western" to "Canadian" because when studying an export market you must deal with the whole problem across Canada. If cattle are exported from Manitoba the reaction is felt in Ontario and Quebec. If cattle are exported from Ontario there is a reaction felt immediately in Manitoba. In speaking of exports you can't corner it down to one particular place in the Dominion, because any export immediately affects the whole picture across the country. I have prepared a few notes which I propose to read and discuss certain phases as we go along, and possibly later I will make some general remarks.

The problem of securing and maintaining export markets for Canadian cattle is to produce in sufficient volume the quality and types, which our export markets prefer. This provision is fundamental to any policy which may reasonably be ex-

pected to secure results. No other single factor, associated with the production and marketing of livestock in the export field, is of such importance; although availability of markets, regularity of delivery, favourable rail and ocean transportation conditions, etc., are important. No continuity of trade in the profitable avenues of the export market can be secured, however, on livestock, the product of poor breeding, and more often of inadequate feeding and finishing. Our well established export trade in bacon was built and expanded on selling qualities prescribed by the preference of the United Kingdom consumer, which in this case was for a lean, mild, and sweet bacon. We may find in the success of our bacon hog policy a real lead toward establishing something equally effective for the beef cattle industry. Some comments on the significance of our fresh beef export experiment in this connection are made at some length in subsequent paragraphs of this paper.

The problem of export markets for any class of livestock is, in this instance, fundamentally one of finding an alternative outlet for an increased volume of grain. That there are possibilities in that direction in respect of our beef cattle production, must be quite obvious to anyone who has visited our public stockyards and looked over the cattle in the various alleys. The bulk of them will be found to be unfinished. A large proportion of the cattle will show no evidence of grain-feeding, and this is true of the qualities offered during any season of the year; and the percentage of cattle of a quality preferred by the export market is smaller than that of any other class or grade of cattle offered.

The ramifications of the dairy industry into livestock production in Canada has had the result of impregnating a large volume of our beef making material with dairy blood, and excepting off the range, straight beef making material is not plentiful. Nevertheless, it is true that our cattle are better bred than fed. We sometimes feel that the combined practice of good breeding and of good feeding is rapidly becoming a lost art. It would be very much in the interests of both the livestock and grain producers in the Prairie provinces, if some policy were developed which would assure an outlet for an increasing quantity of well bred and well finished beef cattle or their equivalent, utilized as a medium for the profitable sale of an increasing percentage of our annual grain production.

We cannot trade successfully without quality. Beef is a highly competitive product in the export market, and quality and uniformity of quality are the strong competing factors. Canada has to sell against the high quality output of the Argentine, the Antipodes and other countries where beef production is undertaken with an efficiency which has its parallel only in our bacon hog production. That situation is, in my opinion, our problem.

Let us briefly review our background in respect of export markets as it has affected our beef cattle trade during the past 50 years. We shall find indications of a lack of direction from our export activities in the matter of building up a standard of production and feeding practice, necessary in securing and holding a favourable place in import markets.

Exports of cattle from Canada during the past fifty years have had the wide range of 50,000 head to a maximum of 467,000 head, this latter during the early post-war year 1919. From 1888 to 1938 our average annual exports were 148,000. During the past ten years our annual average exports declined to approximately 112,000 head, an indication that the export market has not been altogether favourable.

The value to the Canadian livestock industry of these two major markets is obvious. In this connection it is significant that during the last 50 years the average exports to the United Kingdom totalled 69,000 head annually and the average to the United States 79,000 head annually (not a very wide difference), representing volumes for the 50-year period of approximately 34,500,000 to the United Kingdom and 39,400,000 to the United States.

Securing more favourable entry into the United States for our cattle, under the new agreement, is of immediate advantage, and contributes something to the

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solution of our problem in marketing our 1939 surplus. The problem of the periodical lack of sufficient ocean space and satisfactory ocean rates on cattle, affected by annual instability of the movement and by high rates effected by competing products, is one which would seem to demand action. In the past, governments have taken action along certain lines to secure additional boat space between Canadian and United Kingdom ports in critical periods, but it would seem that some more measured action, rather than emergency action, in co-operation with the existing machinery and personnel making up the ocean transportation facilities, is demanded if a more than temporary solution to this important part of our export problem is to be made. The government is not only seriously considering this problem, but is anxious to develop some practical policy toward securing adequate space and guaranteeing a more regular delivery to the United Kingdom market of the required classes of commercial cattle, including both beef and dairy, and perhaps supplementing the beef cattle with the beef equivalent.

The interest which the government is taking in the problem of securing export markets for surplus cattle from our ranches and farms is manifest in the progress which has been made during recent years in securing more favourable access to the United States market, as well as in other projects which are being undertaken to improve in a permanent way our position in our other good market, the United Kingdom.

The further reduction, as from January 1, 1939, in the United States tariff on imported cattle, 700 pounds and over, and the raising of the weight limit on calves from 175 to 200 pounds are bound to have a beneficial effect on the western and eastern markets during 1939. Opinion as to the value of the quota restrictions which will obtain on an increased volume of cattle entering the United States at the lower rate, under the new treaty, indicates that the adoption of the quarterly quota principle has as its useful objective the preventing of seasonal or periodic congestion of supplies at St. Paul and other distributing points in the United States, particularly oppressive at those critical periods when the United States domestic supply at such points has been barely buoyant enough alone to prevent price declines. Such declines in the United States market are as unfavourable to the Canadian producer as to the United States producer, in whose market he is competing. Under these circumstances, the adoption of the quarterly quota system is a favourable factor. It would appear to be particularly useful to the Canadian farmer, in that it will prevent filling the quota before that critical period when our finished grass cattle are seeking an outlet and often find a narrow disappointing prospect. In this connection we might refer to the year 1937. In that year the quota was filled by the end of the third quarter, with the result that from mid-October to December inclusive only a very small volume of our grass finished cattle were able to move to the United States at the lower rate. Exporters of cattle would be well advised to give some thought to the changes which may be made to advantage in the distribution of their supplies, under the 60,000 cattle per quarter regulation in the new agreement.

In further efforts to enlarge the export outlet for our cattle, an experiment, out of which may be developed a permanent place in the United Kingdom market for a substantial volume of a type and quality of fresh beef for which Canada is geographically well equipped to supply, and which can regularly command top fresh beef prices in the United Kingdom, is being carried on by the government with the co-operation of the packing industry, railways and steamship companies. During the past twenty-eight weeks, regular shipments of fresh beef from fed calves or baby beeves, yielding carcass weights of from 400 pounds to 500 pounds, have been made to the Smithfield market, London, delivered in fresh condition, and sold at prices equal to and sometimes higher than the best Scotch beef, which has heretofore consistently made the highest fresh beef prices.

The reception of this beef by the British buyers has been little less than remarkable, and it has been stated repeatedly that the Canadian fresh beef is the best in quality and butchering seen on the British market. This augurs well for the success which should attend expansion of the experiment to commercial proportions.

The fundamental idea of the experiment is to create a special place in the United Kingdom market for this type and quality of fresh beef, economical for the English tradesmen to handle and fully meeting the requirements of the best consumer demand; in sides, not in quarters; distinct from imported chilled beef—the product of pastoral countries, and with which type, weight, character and primary cost we cannot compete; keeping, as we have already stated, strictly out of competition with chilled beef as now being produced and delivered by such pastoral countries as Argentina and the Antipodes, where comparatively low cattle values obtain. Associated with this fresh beef export experiment are many problems arising out of transportation, processing, refrigeration, handling and merchandising, all being relevant to the question as to whether or not it is possible for Canada to establish in the United Kingdom a special-quality of beef which Canada, because of its geographical position in the world's markets, is most favourably situated to produce, and all of which are gradually being solved.

Among the difficulties being encountered are an extremely limited supply of beef of the proper kind; insufficient depth to railway refrigerator cars to allow for hanging full sides; this necessitating the removal of the chuck on the majority of the carcasses; lack of necessary facilities at the docks for the safe and economical handling of fresh commodities; insufficient depth in ship's refrigerator chamber to allow hanging of full sides.

Despite these disabilities, we have been able to make progress and the data secured over the past six months from the regular weekly shipments are extremely valuable, particularly in regard to our transportation and port facilities for the handling of perishable products.

To date, experimental shipments have been processed and exported solely from the province of Ontario, although a large percentage of the carcasses exported originated as live cattle from western ranges. It is the intention, as soon as conditions permit, early to undertake experimental shipments from the western provinces where, it is felt, the required qualities of cattle should fit admirably into modern production policy.

The project is under the direct authority and supervision of the Marketing Service of the Federal Department of Agriculture, in co-operation with three of the largest Canadian packing companies equipped with the necessary machinery and experience to handle the experimental volume, and selling in the United Kingdom market through well established agencies in the London area. Committees, made up of federal officials and the co-operating trade and their agents, meet each week in Canada and Great Britain to consider the various aspects of the project, to make recommendations, to review experience gathered on shipments, and to implement suggestions made by the committee in the United Kingdom, such as may tend to improve the merchandising quality of the product. A most significant fact, among many, a fact fundamental to the successful pursuit of this experiment as regards its commercial value, has already been established. It is that Canadian beef can be transported overseas in perfect condition as fresh beef, delivered in the most acceptable package, and sold at the best prices available for any beef on the market.

Since the project is in its early experimental stages, it would be premature to attempt to draw any hard and fast conclusions as to the application of it to a substantial commercial volume. Ability to sell on a par with the best that the British market has to offer is an encouraging fact and would seem to promise profitable production of the required type of young cattle over a period of years, if the production end is well organized. The field of production for market constitutes the complementary phase of this experiment and is now securing attention, primarily in the province of Ontario, to be extended later to the western provinces. The number of the required weights, ages and quality offered on our markets is at present very much restricted at certain seasons of the year, and to ensure an adequate and regular supply of suitable material will demand considerable organi-

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zation within the industry, primarily among those already engaged in fed calf or baby beef production.

It is not claimed that the development of a fresh beef trade with the United Kingdom constitutes the answer to the demand for something in the way of a permanent policy for the legitimate beef cattle industry. It does promise us, however, a well defined and useful place in the British market at prices probably less subject to fluctuations experienced by other classes of beef, and an outlet for a volume sufficiently liberal to aid in maintaining prices in our domestic market for a class of beef production which is steadily, though slowly, gaining in favour with the Canadian housewife.

Prospects seem to point toward an increase in domestic consumption of Canadian grains for livestock production rather than a decrease. As far as cattle are concerned, a great deal more grain could be consumed by fewer animals to the advantage of the industry. An increase in cattle numbers is not altogether desirable and certainly is not necessary to a substantial increase in grain consumption. We have too little beef on too many legs. Over a period of years, insufficient grain has been fed to give us any reasonable level of beef quality or a sufficiently regular supply of grain finished cattle to meet the best demands of the domestic and export trade. We may find in this fresh beef export project at least a partial answer to our grain consumption problem. However, this does not suggest in any way that we should neglect the opportunities which exist in the United States and the United Kingdom markets for certain types of fat and feeder cattle.

One of the most promising of our export opportunities lies in the market for commercial dairy females in the United Kingdom market. During the past two years, considerable expansion of exports has been developed, largely because of our policy to supply the British dairyman with a dependable article, certified as free from tuberculosis and contagious abortion, and inspected for suitability in type and general soundness for breeding purposes in the United Kingdom. British port inspection is severe. Out of one shipment of approximately 350 head moved last October from Montreal to Cardiff, only one animal was turned down by the British inspector.

Purchases for export have been largely confined to the province of Ontario, and we should like to see the Prairie provinces more actively interested. In 1937, one carload in a large personal purchase by a British farmer was bought in Manitoba. It turned out to be the best lot in the shipment in respect of milk volume and fitness.

Several large buyers from the United Kingdom now regularly visit Canada each year for substantial numbers. The department has assisted buyers in making contacts with sources of supply, with the object of bringing buyer and seller together, establish mutual confidence, and thus put the dairy cattle trade on a sound business basis.

These seem to be our main problems as they present themselves at this time. There are many minor ones which are being dealt with directly as they arise.

In conclusion, may we venture to say that if during the next few years we can regularize our movement of live cattle to the United Kingdom market, develop to a commercial volume a fresh beef export trade with the United Kingdom, expand our dairy cattle export trade with the United Kingdom under similarly favourable conditions as have been experienced during the past few years, and move an acceptable surplus of feed and fat cattle to the United States market under some voluntarily organized effort to make the most of the regulated quota, we shall have accomplished something, the experience of which will provide material for further progress toward placing the beef cattle industry of Canada on a firm basis.

Mr. Chairman, that is all I have to say with regard to the problems that concern the cattle industry of Canada. Some may think that the introduction of this point concerning dairy cows has not much bearing on the movement of western beef

cattle, but the movement of any kind of cattle, whether dairy, beef, or anything else, has an immediate effect on the rest of the cattle left behind. There are some fundamental things behind these movements that I think we should understand. I will speak first in connection with these dairy cows.

Great Britain is undergoing a change in connection with her health regulations. Over there they have for many years had a system of inspection of livestock set up in the different counties. A local officer was in charge, and his word went with regard to the movement of cattle, the inspection of them, and all the rest of it. There was a great variability between the counties. Now they are combining these activities and setting up a health of animals branch in London, and they are on the point of making an endeavour to rid their country of tuberculosis and contagious abortion. That has had very wide repercussions, because in certain parts of England, tuberculosis is a very common disease with regard to cattle. The same condition prevails in Ireland. As these clean areas are developed, and large numbers of cows are condemned, they must be replaced. The only source of clean cattle for replacement purposes is Canada. There are no other live cattle allowed to go on to the shores of Great Britain, and moreover we get enquiries from various parts of the United Kingdom in regard to Canadian dairy cows. The beef producer is not immediately interested in dairy cows. The movement of these animals off the beef market, because you must remember all the dairy cows in Canada have eventually to be eaten up by somebody—they come to market and are slaughtered and sold over the counter or in some other way to people of this country—the removal of any considerable number of them reacts favourably on the other end of the industry. I think there are definite possibilities in developing that trade extensively. There are Canadian cows in many counties of Scotland, and all over the north of England. It is interesting to note that within the last two years special shipments have been made to the president of the British Friesian Breeders' Association, last year a shipment of 14 specially selected Canadian cows, and this year a specially selected shipment of about the same number to the vice-president of that association. That indicates there is interest being taken in these cattle by the dairy committees of England.

Fresh beef shipments. I know you are somewhat interested in that because the success which has attended it up to now is rather remarkable. Canadian fresh beef has been shipped to Great Britain at intervals, and intermittently, for 40 years by Canadian packers, but in all of that time they have never been able to secure a place on that market, largely because the beef which was shipped was not any different from thousands and thousands of carcasses of beef that came there from other parts of the world. Consequently it did not mean much to them, and they relegated it to a low position. They gave a quotation on it about the same as the Argentine beef, because it was somewhat similar, shipped under low temperatures, almost at freezing point. The reason we attempted to see whether or not we could sell fresh beef in England was brought about in this way. A number of years ago, in 1930, there was established a herd of cows, a co-operative experiment undertaken by the University and the government of Saskatchewan. This herd of cows was to be bred in certain ways for the development of calves. Some of these calves were sold in the Canadian market, and some in Great Britain. When these calves were shipped to Birkenhead, it was interesting to see what happened to these nice calves fed here in western Canada. They were killed in the abattoir there, and made beautiful carcasses, loaded into van and shipped to London. We were informed they were sold in London as home-killed beef, which was literally true as they had been in England about a week. As I say they were sold as fresh-killed or home-killed beef, and sometimes brought almost the same price as the prime Scottish carcasses so well known to the British people. That gave us the idea that possibly these cattle might be killed in Canada and sent over there, and thereby save on the freight charges of shipping live animals. When the opportunity arose this year to start this experiment we got the co-operation of those packing companies who had the facilities for processing, and we have shipped now since early in June 25 of these cattle every week, killed in Toronto, and shipped from Montreal. The last two shipments were from St. John's.

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As stated in this paper we have proved three things very definitely. One is that we can ship this beef at temperatures as high as nearly 33 degrees, which is 4 degrees higher than the Argentine beef can be shipped at, which is a decided advantage, and land it there in perfect condition.

The second point that has been proved right from the inception of the experiment is that the cattle can be sold, that is, they will be purchased very readily. The third is that they are willing to pay the highest prices for No. 1 beef on that market and that is a thing that is really remarkable about it, but when one understands exactly what is happening it can be explained. The explanation is that that type of cattle are not being produced in any numbers, and are not to be found on that market except in very small quantities, because the bulk of the beef that comes there comes from pastoral countries, where grass is the main factor in their development, and little grain. You may say the Scotch cattle are grain fed but, nevertheless, grass is the main thing that the Scottish farmer has to use, and he must have a lighter beef, that is a larger frame, in order to make the necessary profit. These small cattle require less roughage but more grain. They are not the cheapest kind of cattle to produce, but the fact that they have outstanding quality is the factor that allows them to compete in that market, and to be sold at about the same price as the prime Scot's select sides.

Another point that might be interesting is that the sixth shipment that we made, for the first time on record at the Smithfield market, outsold the prime Scottish beef by one penny, three farthings, per stone. The cattle in that shipment were selected by accident from the last crop of calves established on the Matador ranch in 1930. The Hon. Mr. Taggart had those cattle sold last fall, and they found their way into a feed lot in Ontario. They were the first cattle to out-sell the very highest priced beef in England.

We cannot hope to have them pay us a premium for this beef, although I am not so sure if it were possible to tell those dealers at the Smithfield market that we would guarantee to ship them 50 or 60 or 100 sides, that would be within the 12-pound range of a carcass weighing from 400 to 440 pounds, and guarantee a weekly delivery of that kind of stuff, you could set a premium on that product and get it, because you are dealing with a peculiar market. You are dealing with the top quality, and the people who buy those products buy them almost regardless of their cost. How much this business could be extended nobody knows. Seventy-five cattle a week are nothing in a city of 6,000,000 people. We have reports from salesmen that we could place 200 a week if we could get them every week that amount of the type required. Cattle fed on wheat, alfalfa and nothing else can be produced for that trade. I have seen them produced in Saskatchewan on prairie hay and screenings. I have seen them produced here in Manitoba in these calf clubs that would suit that market on the ordinary feeds of this country. There are certain sections in Canada all the way across the country that are doing a little at this business, and I think it is worth giving further consideration to because of the outlet of that kind for high quality products. The danger of fluctuation in the market price is much less than when you are dealing with lower grades. Any examination of 20 or 30 years of the Smithfield records will indicate that select Scottish beef varies less in price than any of the rest of the grades. The reason, as I have explained, is that they are purchased by the type of people who are not so much influenced by the cost of the product they are buying. (Applause.)

MR. HUTCHINSON: Can you tell us what price for that particular class can be returned to the primary producer, providing he produces it right here in Winnipeg?

MR. SHAW: That is a very pertinent question and one that has to be answered some time. I am not sure that it can be answered definitely by me or anyone else at the moment. As stated I have shown that we can get the highest price that can be secured for the article. We have to solve the other problem, which is, can you produce at a price that will give the grower and the feeder the necessary margin that will keep him in the business? I would think—this is not a definite answer because I can't give it—that these cattle would bring, somewhere under present conditions,

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6½ to 7½ cents in Winnipeg on the market, and there might be freight charges out of that.

MR. HUTCHINSON: I would like to ask you if you think the farmer is remunerated for the extra finish that you suggest he put on his cattle under the prevailing prices that he has to meet on the Winnipeg market?

MR. SHAW: It will depend entirely on the price of his feed. With barley at its present price, and other coarse grains, I think he can. In other years when barley is selling at a premium it is a different story. Your production costs will always be a variable factor in a grain producing country. There are certain areas where grain is always cheaper than in some other areas. Those are local areas than can be used for production of this kind with a greater degree of assurance than some others, but I cannot answer your question, sir, except on that basis. It will depend on the variation in price of concentrates, because concentrates enter largely into the production of this class of cattle.

MR. HUTCHINSON: This is a mighty important problem, and I judge from your two answers that we could only put those cattle there if we used feed that is now priced at less than half the cost of production. As a primary producer myself, if I grew the grain, and bred those stock from the best cattle, I would lose money still, unless I was a commercial feeder and bought the grain at half the cost of production. Boiled down that is just what it means.

A VOICE: I think Mr. Shaw knows the extra expense entailed in finishing high grade beef, and when we come on to the Winnipeg market and find less than a cent a pound between medium and highly finished beef is the prevailing price, he can readily understand why more highly finished cattle are not placed on the Winnipeg market.

A VOICE: How old are these cattle?

MR. SHAW: We like them heavier than 700 pounds, about 800 pounds, and they will be approximately 14 or 15 months of age; some of them would be younger.

A VOICE: Have you ever known a carcass to weigh 1,000 pounds in 11 months?

MR. SHAW: Yes, there are not many of them.

A VOICE: Is there any prospect of a reduction in costs if the business were put on a commercial basis from what your experiment is bringing out?

MR. SHAW: I think so. We are only shipping 25 a week. We have to take part of a car, and pay the additional charges on that sort of shipment. We have to fill out with boxes of bacon because 25 carcasses are not enough. It would be cheaper if we were killing 100, and there are a number of things like that, if it were developed commercially, in which there would be some savings. How much one can't tell.

A VOICE: You spoke about shipping dairy cattle to the British market, and being in the cattle business, particularly with respect to ROP dairy cattle. I would like to ask do those cattle carrying a certificate have any preference in this dairy cattle market?

MR. SHAW: They do not have very much preference with the average British farmer, because he does not understand the significance of that. Gradually they are coming to recognize that it is of value, and they are making greater enquiries each year into all the records they can get about the herds which they visit.

A VOICE: What I wanted to bring out is that there is quite a lot of work and extra trouble entailed in keeping records of these cattle, and therefore I feel that the man who is engaged in that business is not getting sufficient remuneration or recognition with respect to ROP cattle.

A VOICE: To what extent does tuberculosis affect western cattle?

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MR. SHAW: A very small percentage. It would be one or two per cent in large groups being tested. In Carberry there were some 20,000 or more tested, and the percentage was down around one or $1\frac{1}{2}$ per cent, very low, the lowest probably in all Canada.

MR. GRAHAM: Mr. Chairman, I think this address this morning from Mr. Shaw is the most practical demonstration that we have had at this convention of something that will fit into all the schemes we are trying to work out. Here is a scheme which should develop what we want, to get rid of our surplus feed and wheat, and also our pastoral system in producing the animal up to the stage where he is ready to be fed wheat. It is all right trying to raise our price, but there is one way we can help ourselves and that is to get rid of our surplus, as they do down south, burn it. We do not want to do that. We can use it up in this way.

This discussion so far has demonstrated that this Marketing Service under Mr. Shaw, with the co-operation of the Minister of Agriculture, is the only body demonstrating their worth at the present time, and their work is only beginning. It is a strange thing that we have lived in this country so long and never thought of shipping fresh dressed beef to the Old Country. It remained for a body of men under Mr. Shaw's direction to develop this situation. I look upon this situation as a wonderful development. It means much to us, and it will fit in very well with the situation as I see it. Beef has to hang between 9, 10 and 12 days to make it perfect for consumption purposes. Practically the time it takes from the time it leaves our ports to arrive in the British market is the time to make it prime fresh beef. I can tell you that the people in Argentina would give half the country to have the privileges we have in Canada. We have a situation here that we had better try and develop, and thereby help ourselves a little further, and I am sure that we will have the co-operation of Mr. Shaw and his Division to the full extent of their power.

We have a Co-operative Western Canadian Union, with which I happen to be connected, and we have asked the department to do many things for us, and they have seen that it is done.

About this matter of exporting beef to the Old Country, when we get to the point of shipping a lot of cattle, say two or three thousand head, it would need a special abattoir at St. John or Montreal. The cattle would be fed and put in condition for export, shipped down to the landing port, Montreal or St. John, slaughtered there and shipped right into the hold of the ship in cold storage, which would land it in the Old Country in good condition, as fresh beef as there is for sale on the Smithfield market. That may not be capable of being carried out to the letter, but I think we can look to the time when that will actually be the situation.

I think we should develop this matter of the fresh beef trade a little farther, and see if we cannot do something about our older cattle, that is the cattle produced on our grasses and fed with this wheat. I told you I am a great believer in feeding wheat. I do not care much for growing wheat—I am a livestock man—but I want some wheat to feed. I think wheat is the best feed in the world to finish off anything; it gives quality to anything. Of course we can't feed it altogether, but it can be mixed with other coarse grains.

MR. MCKENZIE: Mr. Shaw referred to the desirability of the weight of the carcass being around 850 pounds. That means that the man who produces that carcass must enter into the occupation of finishing calves. Isn't it in your opinion going to be more practicable, or more profitable, for the Ontario feeder to feed and finish that calf for the British market than the feeders in western Canada. It just seemed to me that the margin of profit is going to be somewhat narrow in any case and the feeder in Ontario, in buying the western calves, if he did buy calves in the West, and it is presumed he would, would buy a calf weighing around 400 pounds, and naturally would have a great saving in freight when he shipped it down, and would have no freight to pay on the other 400 pounds which he finished in Ontario. It seems to me that alone should indicate a considerable profit to the Ontario feeder, and might make the difference between profit and loss if that same calf was fed in Alberta or western Canada. I would like to get your opinion on that.

I am keenly interested in this for the simple reason that we in southern Alberta, during the years 1930 to 1933, were feeding calves to a considerable extent. I think I probably was instrumental in sending the first trainload of baby beef to Great Britain that came from western Canada. Today while we are still feeding cattle, there is no baby beef being fed in that section of the country. The reason for that is that it did not pay the farmer to produce that class of animal, therefore we had to try and finish some animal that would be potentially more profitable, and they haven't turned out too good, as you know, at times. It seems to me that the margin of profit is likely to be narrow, and that the Ontario feeder might well consider this freight proposition, while it may not be so profitable to our railways. Nevertheless, the margin is not going to be much, and the Ontario producer might very well take the 400-pound calf to eastern Canada, and increase it to the weight it is expected to go.

MR. SHAW: Answering Mr. McKenzie as to whether or not it would be more profitable for the eastern feeder to purchase his calves where they are produced under range conditions, and feed them in some part of eastern Canada, rather than have that done where the calf was produced, is another question that cannot be answered completely. One of the difficulties involved is that western calves are born largely within six weeks of each other; they are born in the spring of the year on the ranch. A business of this kind must be running 52 weeks of the year. That means that a large part of this industry will have to be developed by men who will grow their own calves in whatever part of Canada they are, and finish them off themselves. There will be room for a good many feeders to use western calves which will spread out six months of the year, but the other six months of the year they are too old to fit the bill. The eastern feeder is handicapped because he has to pay some freight on grain as a rule. If he buys his calves in the West he sometimes has to buy a certain part of his feed as well. If he can produce all his feed on the Ontario farm, and buy these calves, then he perhaps has the advantage you refer to in your remarks.

There have been some experiments conducted in various places in connection with this business. For instance, in the State of Michigan, not a particularly low cost place on this continent, they carried on an experiment in cows and calves under farm conditions, and they came to the conclusion that a cow cost about \$25 a year to keep in their area. She produces her calf, and it can be fed out within the year and sold at about six cents a pound, making about an equal amount. It simply resolves itself into a method of selling the feed that is produced on that farm.

I do not hold this thing up as a cure for anything. It is an effort to try and sell our product in the markets of the world. Mr. McKenzie states that the calf feeding did not pay them, and they are now returning to heavier cattle. I am sure they are paying them much better evidently than they thought they would, and the change has been made, but the fact must be faced that if we are to sell our product we must try and sell a product that somebody wants. That can't be lost sight of at all. We worked into this experiment that very factor, and during the 7th, 8th, or 9th shipment we included what were known as light butchered cattle, some young heifers, well finished, that came to the public stockyard. They were 18 or 19 months old, many of them. What did we get for them? About a penny a pound less. Why? Because they have lots of that kind. They do not want that kind over there; they are not interested; they will pay us just the same as for any other foreign cattle.

The thing I am trying to make plain, and what we have endeavoured to demonstrate, is that there is a certain type we have in Canada, in limited numbers, which perhaps can be increased, and which we can actually sell on the Smithfield market every week in the year if we can evolve a method of producing those in certain areas. Even if we break even it will be something, and it will help the whole cattle industry. It is not increasing the number of cattle, it is finishing a certain number of them earlier. A calf when he is weaned in the fall of the year, weighing 400 or 500 pounds, is worth more than he is at any time during the next 18 months if he is kept there in the ordinary method of keeping cattle. It simply means a quicker turnover.

I heard a statement made by one of the largest ranchers in Canada, who stated that in his early days nothing would do but four-year-old steers. Then they got down to three-year-olds and two-year-olds. Now, due to the changed condition in the market they have practically come to the conclusion that a yearling is the greatest age they can carry a steer on the ranch generally. That is the trend all along the line. These lighter, earlier finished cattle are the only kind we can sell in that market. If we cannot make any money doing it we will have to drop it, but the effort is being made, and we hope to follow it up and see whether or not some areas in Canada cannot attempt this thing, and perhaps make a success of it, and in that way help all the rest of our marketing conditions with the balance of cattle which must be sold on our domestic or other markets.

THE CHAIRMAN: I am sure we are all extremely pleased to hear Mr. Shaw's remarks on this particular problem, for the simple reason that he has touched the pith of the whole situation. The secret of success is dressing the animal in this country and sending it to the Old Country in that state.

Whenever the question of hog marketing is mentioned anywhere in Canada among hog raisers, the name of Mr. Pearsall, of the Department of Agriculture, Ottawa, comes to mind. I introduce to you Mr. L. W. Pearsall, one of the best informed men in respect to hogs and hog marketing in Canada. Mr. Pearsall.

THE PROBLEM OF EXPORT MARKETS FOR CANADIAN HOGS

by

L. W. PEARSALL

DEPARTMENT OF AGRICULTURE, OTTAWA

One of the major problems, if not the most important, in connection with our export market for Canadian hogs, is the lack of sufficient hog volume. In this country of agricultural surpluses, this statement may appear to be an exaggeration, but a critical examination of the facts in respect to our position in the British market during the past six years under the terms of the Ottawa Agreement would justify such a statement.

In 1932, under the terms of the Ottawa Agreement, Canada secured free access to the British market for a volume of bacon and hams to a maximum of 280,000,000 pounds annually. This means that during the six years which have intervened since the securing of this favourable preferential treatment in the United Kingdom, we could have shipped 1,680,000,000 pounds of bacon and hams. In other words, we had an opportunity during that period to ship to the United Kingdom the product of more than 8,000,000 hogs beyond our actual exports. This we could have done without seriously increasing the volume of bacon on that market. The entry of this additional quantity of Canadian product would not have increased the total bacon on the British market as under the agreement whereby British imports are regulated, the additional product would have replaced an equal amount of foreign bacon. It would, therefore, be reasonable to assume that had we shipped greater quantities of bacon it would not have seriously affected the price of bacon on the British market or returns on export to the Canadian hog industry.

OPPORTUNITY OF THE EXPORT MARKET

It can be said without fear of contradiction that the British bacon market has during the past five years provided a most attractive outlet for bacon. This suggests the wisdom of serious consideration to the possibility of increasing our hog production and in this way diverting surplus grain supplies into bacon. Considered from this angle the problem of increased hog production or the conversion of the larger percentage of our total grain crop into meat products is one of national concern, particularly to the Prairie provinces. May I quote a most interesting statement appearing in the Canadian Hog and Bacon Industry publication by Dr. J. E. Lattimer, MacDonald College, Quebec:

"The importance of British imports of pork products is not generally realized. Britain has spent more on imported pork products during recent years than on imports of wheat and flour.⁽¹⁾ The expenditure on imported pork products has recently averaged about 40 million pounds sterling. This import market for pork products, amounting to about two hundred million dollars per year offers the next best bet to wheat export."

"Perhaps the competition may be even less keen in bacon export than in wheat. Britain is committed to taking wheat from Australia and Argentina on account of large investments in those countries. On the other hand Britain still depends for bacon supplies largely on foreign countries where investments are not large. The share of that market secured by Canada will depend upon the national consideration given to this outlet as an alternative to grain export and the co-operation provided by all concerned."

This is a pertinent statement worthy of our earnest consideration. When our present trade agreements are to be renewed, the bacon quota that can be secured for Canada will be entirely dependent on the accumulated evidence of our ability to produce hogs, and the reliability of this country as a source of bacon supplies. It follows, then, that if our trade is to be permanently expanded, steps to ensure a larger and more regular supply of hogs are very necessary.

TREND OF PRODUCTION

During the past 25 years the trend of production has been definitely westward. In 1923 the total marketings in the three Prairie provinces amounted to 761,730 hogs. In 1937, the marketings totalled 1,804,591 hogs or an increase of over two and a half times. Hog marketings for the West during the present year will be substantially less than last year, and as a result bacon exports will approximate 168,000,000 pounds as compared with 195,000,000 pounds exported during 1937. A survey of future production indicates a very substantial increase in hog marketings beginning in the late spring of 1939 with peak deliveries during the fall months. This illustrates periodic fluctuations in production which in itself is a real problem in the export market. Increased hog production has made the export market extremely important to hog producers in western Canada. During 1928, only 13.42 per cent of hogs produced in the West were shipped direct to export, 18.9 per cent moved to other provinces for slaughter, but some of this product may have gone to export, and 67.6 per cent was utilized in the three Prairie provinces. In 1936, 53.1 per cent of the total marketings was shipped direct to export, 14.0 per cent moved to other provinces, leaving a net of 31.9 per cent for domestic use within the provinces. While the percentage for export for 1937 was slightly lower, it was substantially the same. Briefly, this means on the basis of the past two years that 65 to 70 per cent of the hogs produced in the three Prairie provinces have moved either to export abroad or to other provinces.

(1) Empire Marketing Board, London, June, 1932, Dairy Produce Supplies, 1931, p. 8. Agricultural Economics Research Institute, Oxford, England, Agricultural Register, 1933-34, p. 104.

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TABLE No. 1

Year	Actual Hog Marketings originating in three Prairie Provinces	Inspected Slaughterings in three Prairie Provinces	Bacon exported direct from three Prairie Provinces (120-lbs.=1 hog)
1928	1,114,228	902,945	149,534
1929	1,237,364	899,883	150,208
1930	1,143,645	683,099	150,742
1931	1,390,912	885,743	56,699
1932	1,781,061	1,126,310	131,738
1933	1,766,845	1,173,480	222,813
1934	1,734,501	1,332,915	463,277
1935	1,608,153	1,272,999	596,155(x)
1936	1,877,335	1,582,459	996,955
1937	1,804,591	1,550,660	762,082

(x) Exports 1926-1934 fiscal years, 1935-1937 calendar years.

TABLE No. 2

Year	Percentage of Total Marketings shipped to other provinces	Percentage of Total Marketings exported direct as bacon from three Prairie Provinces	Estimated Percentage of Total Marketings used domestically within three Prairie Provinces
1928	18.96	13.42	67.62
1929	27.28	12.13	60.59
1930	40.28	13.16	46.56
1931	36.32	4.07	59.61
1932	36.76	7.39	55.45
1933	33.59	12.61	53.80
1934	23.16	26.70	47.14
1935	20.75	37.15	42.10
1936	15.71	53.10	31.19
1937	14.08	42.23	43.69

PROBLEMS IN CONNECTION WITH EXPORT OF BACON

Improvement in the quality of hogs produced in western Canada may be considered almost remarkable, for example in 1923 there was only 2.3 per cent selects in the province of Alberta as compared with 26.7 per cent for 1937.

Province	Per cent Selects 1923	Per cent Selects 1937
Alberta	2.4	25.8
Saskatchewan	4.8	15.7
Manitoba	7.9	17.9
Ontario	21.1	32.0
Quebec	10.9	21.8

While our improvement programme must be continued, present quality of Canadian bacon on the British market cannot be considered a serious handicap.

During the past few years very satisfactory progress has been made in standardizing the manufacture, grading and selection of export bacon.

Special attention to the transportation and handling makes it possible to state that the general condition and flavour of our bacon on arrival in England compares favourably with other bacon and leaves little ground for criticism.

Another factor which probably should be mentioned is that only about 57 per cent of the Wiltshires is of sizeable weight (55-65 pounds). While the Wiltshires that are exported below 55 pounds and over 65 pounds are good quality bacon, they are however, owing to their weight, not as desirable as sizeables and are usually subject to discount in price. The answer to this problem is, a greater percentage of hogs marketed at weights which will make 55-65 pound Wiltshires.

The major problem in connection with bacon exports is regularity of supplies. I am convinced that this one factor has more to do with the unfavourable price received for Canadian bacon than any other factor. To illustrate the point, every fall bacon exports have increased over 100 per cent in a period of from eight to nine weeks. Bacon exports for the week September 21, 1937, were slightly over 2,000,000 pounds, whereas exports for November 23 totalled 4,762,031 pounds. These drastic increases in bacon exports invariably bring about a wider differential in the price of Canadian bacon.

For example, during July of this year bacon exports averaged about two and one-half million pounds weekly. The difference between the top price for Danish bacon and the top price for Canadian was only four shillings. Further, there was only a price range of three shillings between the top and bottom price of the Canadian. During the month of March, however, when exports averaged approximately 3,700,000 pounds, the difference in price between top Danish and top Canadian was 11 shillings, and a price range of 15 shillings between the top and bottom price for Canadian, or a difference of 28 shillings between the top price for Danish and the bottom price for Canadian bacon.

A study of the price differentials for Canadian bacon during the past few years will show that any rapid and drastic increase in exports is associated with a widening in the differential between the price of Danish and Canadian bacon, and also a widening of the price range for Canadian. This, to my mind, does not suggest that the British market would not absorb increased supplies at favourable prices, provided that such supplies were going forward regularly, but rather that unfavourable differentials in price are due to irregular deliveries.

Not only are irregular deliveries a poor merchandising policy, but they are at the same time the subject of criticism by the British hog producer, foreign competitors, and a source of embarrassment to the British ministry.

The stated policy of the British ministry is to maintain a satisfactory price for the English hog producers by regulating the volume of bacon through the application of quotas. Bacon imports from foreign countries are subject to a definite quota. When irregular supplies occur, causing price fluctuations, Canada is blamed; the British hog producer is antagonized, our competitors demand definite restrictions on Canadian imports and the job of regulating volume is made more difficult for the British ministry. As a result there is crystallizing in England a definite demand to have Canadian imports of bacon placed on a stated quota basis.

Definite steps are being taken to overcome weekly and seasonal variations in bacon exports by utilizing storage and in this way level out weekly and seasonal shipments to a reasonable degree and thus avert the danger of a definite quota being applied to Canadian exports.

These fluctuations in weekly and seasonal exports can be directly attributed to hog marketings. In March, 1936, the three Prairie provinces marketed 158,709 hogs and in December 281,628 hogs, whereas the markets for August were only 88,532 and July 109,633. In 1937, 198,546 hogs were marketed in March; 194,298 hogs in November, whereas the total markets for August and September combined only amounted to 170,594 hogs. Levelling out export shipments by means of storage has very definite limitations without deteriorating the quality of the product, and the real answer to this problem must be found in the production field. Regulating supplies, both annually and seasonally is to my mind the major problem in respect to maintaining a satisfactory export market for bacon. The answer to this problem is definite production programmes effectively carried out.

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While the problems I have enumerated in connection with the export bacon trade are very real, there are certain advantages to a programme of increased hog production in western Canada that merit brief mention.

The practical economy of maintaining soil fertility through conversion of grain into livestock and its resulting residue in the form of both natural and artificial fertilizers is at once apparent. This point need hardly be elaborated upon.

Meat packing is now one of our most important industries in materials consumed, and labour employment. The number of employees in the industry which had in 1937 a capital investment of about \$65,000,000 were 13,070 persons, with a wage bill of \$17,000,000. This suggests the value to industry and to consumption of labour of a further expansion in conversion of a comparatively low value commodity into a comparatively high priced manufactured product such as bacon. This is more obvious when reviewed from the fact that the by-products from the meat packing industry contribute to labour consumption and commodity output from other industries than its own.

Experience has emphasized the hazards of farming in western Canada. Even in the event of crop failure forcing a discontinuance of hog production, the facility and economy with which hog production may be resumed is a most significant fact and should not be overlooked. A farmer can get back into hog production with a very nominal investment on which cash returns become available in at least ten months.

I also submit for your consideration the possible economy in converting grain into hogs as near as possible to the source of production. In other words, the advantage of feeding hogs in those areas of the West in which grain is produced as compared to transporting the feed from western to eastern Canada for feeding. The approximate cost of moving a live hog from a representative point in Alberta (Red Deer) to Montreal, is \$2.62. According to the 1936 report of the Grain Trade of Canada, Dominion Bureau of Statistics, it was computed to cost approximately 32 cents to move 100 pounds of grain from a representative point in Alberta to Montreal, carried rail to Fort William and lake freight from Fort William to Montreal. Assuming that it requires about 1,000 pounds of grain to produce a 200-pound hog, it would cost \$3.20 to move the feed required for a 200-pound hog as compared to \$2.62 to transport the live hog.

Consideration might also be given to the possible economy in transporting bacon to England as compared to the cost of transporting grain. According to the 1936 report of the Grain Trade of Canada, Dominion Bureau of Statistics, it cost 30 cents per bushel to move wheat from western Canada to British ports. Again assuming that it requires about 1,000 pounds of grain to produce a 200-pound hog, it would cost \$5.00 to move this amount of grain from a representative point in western Canada to the British market. Compared to this the cost of moving the product of a 200-pound hog (120 pounds of bacon) from Calgary to the British market is approximately \$2.50.

In addition to the advantages suggested for extending hog production in Canada, there is a very definite advantage of a protected and regulated market for bacon in Great Britain. While we have no assurance how long such an advantage will continue, there is nothing to suggest that Great Britain will in the near future, at any rate, abandon the established policy of protecting the British Hog Policy. The present quota of 280,000,000 pounds annually would only permit an increased production of about 750,000 more hogs than were produced in 1937. There should, however, be reason for optimistic hope that if reasonable evidence is given that Canada would be a reliable source of supply for bacon, some extension to our present quota might be forthcoming.

Feed supplies are fundamental to hog production and generally a favourable feed crop is preliminary to an increased output of hogs. Whatever substantial expansion has taken place in hog production in the last 25 years has been confined largely to the western provinces where annually there has been, with the exception

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of the drought years, a liberal supply of grains. It is reasonable to believe that had not the Prairie provinces experienced severe drought during the past few years the impetus then being given to Canadian bacon exports to the British market would have resulted in the Prairie provinces supplying sufficient additional hogs to approximate the fulfilling of the export quota of 280,000,000 pounds. I would suggest, however, that even under the prevailing conditions during the drought years, had there been some definite organization for the movement of grains from areas of plenty to areas of deficiency, hog production would have continued to expand. There are certain areas in the Prairie provinces particularly adapted to wheat production, but there are also some very large areas where production of coarse grains can be and is generally undertaken under favourable conditions, but where quite often through early frosts and other vicissitudes of nature the grain cannot be merchandized profitably in its raw state, because of low grading. In my opinion, the conversion of coarse grains and low grade wheat into hogs, provides an important alternative market for a larger quantity of grain than in the past. To carry out such a programme, however, it would seem essential to organize very definitely, the conservation and distribution of feed from areas of plenty to areas of deficiency.

TABLE No. 3

LIVE HOGS ORIGINATING AT RED DEER, ALBERTA, AND KILLED AT
VARIOUS PACKING CENTRES—MEAT BEING SHIPPED TO MONTREAL
FOR EXPORT

	To Calgary	To Winnipeg	To Montreal
1. Live hog rates	\$ 17½ cwt.	.53 cwt.	1.14½ cwt.
2. Feeding (\$4.00 each feed)	1 time	twice	4 times
3. Loading and unloading (\$1.00 each time)	1 time	twice	3 times
4. Bedding, straw, sand, \$2.00	1 time	1 time	2 times
5. Drenching, 50c each		2 to 3 times	4 to 5 times
6. Disinfecting car, 75c	\$.75 car	.75 car	.75 car
	From Calgary	From Winnipeg	From Montreal
7. Meat rates	\$1.23 cwt.	.79 cwt.	.27½ cwt.
8. Icing	\$.10 cwt.	.07 cwt.	.05 cwt.
9. Ocean rate—temp. 25/30°	\$.75 cwt.	.75 cwt.	.75 cwt.

SOURCE: The Canadian Hog and Bacon Industry, C.S.T.A.

NOTE:—(1) Computed on the above basis it costs approximately \$2.62 to move a 200-pound hog alive from Red Deer, Alberta, to Montreal, Quebec.
 (2) Computed on the above basis it costs \$2.50 to move the product of a 200-pound hog (120 lbs.) from Calgary, Alberta, to Great Britain.

TABLE No. 4

Approximate average charges between the producer in western Canada and the arrival of vessel at British ports, per bushel of wheat, exported via Montreal-Sorel-Three Rivers-Quebec.

CALENDAR YEAR 1936

	Cents per bushel
1. Handling at country elevator (including insurance against loss by fire and storage for 15 days); official inward inspection, weighing and registration fees; and selling to exporter on Winnipeg market	3.5
2. Railway freight rate from average western point shipping to Fort William-Port Arthur elevators	12.5
3. Handling at terminal elevator (including insurance against loss by fire or explosion and storage for 15 days); official outward inspection, weighing and registration fees; and loading into vessels	1.5

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4. Lake freight, Fort William-Port Arthur to Montreal-Sorel-Three Rivers-Quebec (including cost of trimming cargo, brokerage, lake and outturns insurance, and any charges incurred for transfer of cargoes from upper lake to canal-size vessels)	4.85
5. Approximate average cost of freight and insurance (marine and outturn) between Montreal-Sorel-Three Rivers-Quebec and British ports (including fobbing charges at Montreal-Sorel-Three Rivers-Quebec)	7.65
Total approximate cost between producer and c.i.f. British ports, per bushel of wheat	30.00

SOURCE: Report of Grain Trade of Canada, 1936, Dominion Bureau of Statistics.

NOTE:—Computed on the above basis it costs approximately \$5.00 to move 1,000 pounds of grain from western Canada to British ports.

TABLE No. 5
FREIGHT RATES ON GRAIN FROM POINTS IN ALBERTA TO
FORT WILLIAM AND PORT ARTHUR

FROM	Distance to Port Arthur	Grain and Grain Products	
		Miles	Sept. 12, 1927, to date
Athabasca	1,325	29	
Brooks	1,147	25	
Calgary	1,247	26	
Edmonton	1,232	26	
Empress	1,050	24	
Hanna	1,168	26	
Hardisty	1,135	25	
Lacombe	1,267	27	
Lethbridge	1,181	25	
Macleod	1,213	26	
Medicine Hat	1,080	24	
Raley	1,213	26	
Tofield	1,191	26	
Wainwright	1,105	25	
Wetaskiwin	1,230	26	

SOURCE: Report of Grain Trade of Canada, 1936, Dominion Bureau of Statistics.

NOTE:—Computed on the basis of the above freight rates plus lake freight Fort William-Port Arthur to Montreal at an average of 4.85 cents per bushel; it would cost approximately \$3.30 to transport 1,000 pounds of grain from a representative point in Alberta to Montreal.

THE CHAIRMAN: I wish to thank Mr. Pearsall for his very comprehensive paper.

MR. MILNE: I was too late to get on my feet in regard to Mr. Shaw's interesting paper, and I will have a word or two to say about that now. I was very glad to hear him say that our better beef cattle can sell on the Smithfield market on a parity with the Scottish cattle. I was over there recently and I would like to say that we can send our fresh beef over at \$1.00 a hundred higher than the Scottish dealer can get for his finished beef owing to the scarcity of their cattle. I was told the reason we could not get it over there was that we could not get boat space. I hope that question will be taken up.

Regarding the hogs I would like to make this remark, that over there I called on a great many of the butcher shops throughout the British Isles and I noticed they were selling Danish bacon, Canadian bacon and Irish bacon. I asked the butcher why Danish bacon was higher than Canadian bacon, and he said it was owing to the flavour, a little bit better flavoured. But he had no fault to find with

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the Canadian bacon, and we may be gratified to know that Canadian bacon is well received. There is a market over there for our cattle and hogs, and for us Manitobans it is getting to be as important as wheat.

THE CHAIRMAN: We have five minutes left this morning, and if there are any further questions it might be a good time to hear them.

A VOICE: May I ask Mr. Pearsall a question, if he has any explanation for the sudden variation in hog prices on the market here? I have been a hog producer since 1921, have followed a regular programme, kept the same number of sows, raised the same number of hogs, and I have frequently left home with a truck load of hogs, and on reaching the market an hour and a half afterwards I found I had lost from \$15 to \$20 on the trip since I left home.

MR. PEARSALL: The question as I understand it is for an explanation of the fluctuation daily and weekly on hog prices. The obvious answer to that is supply and demand on our own market, and secondly, the most important, is that the British market really provides the basis for hog prices. I have before me a price list for this year, and from about the last week in October, in a period of two weeks, the market dropped about 12 shillings in the British market. A shilling is equivalent to 13 cents in the price of a live hog, so that in itself is a reasonable explanation of the fluctuation. You must also remember this that the British market is the basis on which hogs are bought, and since the live hog bought today will not reach the British market, and will probably not be sold for three weeks, there is always the element of speculation as to what the British market will be when the product arrives there. Supply and demand in the British market are the essential factors in your fluctuations. I agree that from the producer's standpoint, when he has a very limited period to market the hogs, and he must get them on the market at the right time and the right weight, sometimes it may seem that there is injustice. For instance, his neighbour markets this week, and he markets the following week and he gets as much as a dollar less than his neighbour did. However, those are the facts, and I can't offer any suggestion as to how they can be overcome.

MR. GRAHAM: Why should there be a fluctuation when, according to the quota, the hogs are going over there in regular numbers?

MR. PEARSALL: The question is if the volume of bacon going on the market is regulated, why should there be a fluctuation in the British market? I cannot answer that question.

MR. GRAHAM: If your export is approximately 10 per cent of our production, do you think your answer furnishes the valid reason for this extreme fluctuation here?

Mr. PEARSALL: The question is, since we only export 10 per cent of our production is the explanation I gave in respect to price a logical explanation? Whether or not it is logical it seems to be the fact that your price is determined by your surplus, whatever that surplus may be. I would like to state this, however, I don't know in what sense the gentleman asking the question is using the word "production," but on the basis of our total marketings, on the basis of the hogs passing through the recognized trade channels for the past two years, we have exported about 40 to 45 per cent of our total marketings.

MR. HUTCHINSON: Doesn't that mean marketing through abattoirs? It doesn't mean the total production. It just means the recognized big plants.

MR. PEARSALL: It includes all these slaughtering plants. Of course, it doesn't include a small slaughtering plant in a small place like Brandon, but the percentage of hogs not slaughtered through recognized plants is small because we have only a limited population for local slaughter.

MR. HUTCHINSON: I have a letter from the Canada Packers giving some figures, and they estimate that our domestic slaughter was approximately 6,000,000

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hogs per year. That is their statement, and I have the papers in my pocket to prove it. What are you going to do about it?

MR. PEARSALL: I don't know. I wasn't aware that there were 6,000,000 hogs altogether. That is the estimate probably put out by the Bureau of Statistics of the total hog production, but that is estimated, it is not actual.

A VOICE: At what date did the Ottawa Agreement come into effect?

MR. PEARSALL: Some time in 1932.

A VOICE: In 1931 we had 195,000 hogs more than we could utilize, and the price fell from 12 to 2.65. It wasn't in operation in 1931. Did our price for bacon in Great Britain fall 40 per cent from midsummer to fall this past season, because the price of our hogs fell from 12 to 7?

MR. PEARSALL: Our top price for bacon in July was 104 shillings; the last quoted price on bacon I think, about the middle of November, was 74 shillings. I do not know what the quotation is just at the moment.

A VOICE: Is not one of the most important factors in our marketing the cost of shipment. Aren't we Canadians paying long freight hauls that are unnecessary, whereas we could use the short route through the Hudson Bay that can be practically utilized every day in the year? Why are we not taking advantage of that short haul and saving the cost?

A VOICE: What is the difference between the value of our bacon three weeks after it is killed and six months after it is killed? Is it not possible for the abattoirs to spread out that distribution to better advantage than the farmers? Can't the abattoirs do something about the equalizing of the British market?

MR. PEARSALL: I think if anybody could know what the price of bacon was going to be next March or July he would be able to make a nice clean-up. Bacon can be stored, and is being stored to some extent, but there are certain limits to which you can store bacon without seriously affecting the quality.

A VOICE: How does the British market consider the deterioration in quality of bacon stored for six months or so?

MR. PEARSALL: The fact of the matter is we do not tell the Britisher we store the bacon. Every time any information gets out, or is received over there, that we are storing bacon, our competitors immediately use that as a criticism. Bacon can be stored at a minimum for two months, and then it has to be replaced. The policy that is followed is a policy of replacement. You cannot store it more than two months without seriously affecting the quality.

MR. WESSON: I notice that Mr. Pearsall answered the question that the agreement referred to between Canada and the United Kingdom was signed in 1932. As a matter of fact, the latest agreement was signed in Ottawa, February 23, 1937.

MR. TAGGART: That is a renewal of the 1932 agreement.

MR. WESSON: I would like to read you something in this connection. Article 5 (pages 4 and 5) of the Trade Agreement between the United Kingdom and Canada, signed in Ottawa, February 23, 1937, reads as follows:

"The government of Canada recognizing that it is the present policy of the government of the United Kingdom to promote the orderly marketing of bacon and ham and all meat in the United Kingdom with due regard to the normal development of trade, declare their willingness as far as their power extends to continue to assist the government of the United Kingdom in carrying out this policy, and in particular to furnish from time to time estimates of forthcoming shipments of bacon and ham and cattle and beef."

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"As regards bacon and ham the government of the United Kingdom undertakes: (1) That any duty or levy that may be imposed on bacon and ham imported into the United Kingdom shall not apply to imports of Canadian bacon and ham when consigned from any part of the British Empire.

"(2) That there will be no regulation by them of such imports unless the rate at which the trade from Canada progresses towards two and one-half million hundredweight per annum should become abnormal such as to endanger the effective working of the system of supply regulations."

Just as long as there is no control of shipments from this side on this hit-and-miss programme in carrying out our quota of two and one-half million hundred-weight there will be periods of dumping and periods of shortage. This is referred to by Mr. Pearsall in his paper as the continuity of flow. Even within the regulation itself you are going to see it has ups and downs in fluctuation of prices which are not warranted and ought to be taken care of by organized control, which must be done by the Dominion government.

HON. JOHN BRACKEN in the chair.

THE CHAIRMAN: I am going to ask Professor MacEwan, of the University of Saskatchewan, to continue the discussion of the livestock situation. Professor MacEwan.

PROFESSOR J. W. G. MACEWAN

MR. CHAIRMAN, LADIES AND GENTLEMEN: I received a copy of Mr. Shaw's paper last night, and looking over it only confirmed my guess that it would be complete and very adequate, and I take that as some license to digress more than I otherwise would.

Wheat seems to be the keynote in the discussions of this conference and rightly so. But it is appropriate that we examine the marketing of beef at this time when we are confronted with wheat marketing problems and facing, too, some extensions of grass in the prairie provinces. Perhaps we should not be entirely unmindful of lamb, another grassland product, which like beef, we could produce in somewhat greater abundance if the markets warranted.

Grasslands are going to demand more of our attention. Building a nation on grass is a very different matter from building on wheat; it is not likely that we will be required to so rebuild, but it is well to recall in passing that grass is the basis of the national economy in some parts of the world, just as wheat has been in western Canada. Any substantial shift in the direction of pastoral agriculture would necessitate certain rather drastic changes in organization. Grasslands will not maintain as large a population as the more intensive type of agriculture, and grassland agriculture cannot possibly survive on highly capitalized land.

I do not believe, however, that there is any thought of a serious departure from wheat, especially on the wheat lands; rather, the idea of any change would be to protect our wheat interests. But what of the outcome of a measurable extension in grass in western Canada? In the first place the reseeding of certain areas would represent an attempt to employ the land for the use to which it is best suited. More grass would be an effective check on soil drifting. More grass would seem to relieve the wheat situation. But is it possible that in relieving the wheat situation in this manner, we would be making new and equally embarrassing problems in marketing grassland products? If necessary or expedient, the farmers of this country can find a market on their own farms for more grassland products than are being used at present. Farmers who elect to increase their security will recognize the benefits of producing more of the food products for the family table; that may seem a small matter but it can be an exceedingly important one to the people on the land and everything points to the fact that the home and security will inevitably loom larger in farm organization in the years ahead. In certain sections, perhaps more especially in the park belts and where farms are small and security a central feature, there may appear new advantages in raising the farm power and growing

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the fuel for that power. It is not a matter of sentiment and it does not call for a horse-tractor controversy of the old fashioned type; so far as national economy and farm security are concerned, it may be merely a matter of producing the things for which there will be fairly certain demand. I am not unmindful of the efficiency of modern machines, but to realize how important the market, represented by western work horses, has been and can be for the products of our soil, we need only multiply every working horse by about two tons of roughage, one ton of grain and an acreage of grass, annually.

But if a bold extension of grass is to be successful, farmers must be reasonably certain that they can sell products. We are concerned mainly with beef and with your permission I would include lamb because I visualize the production of more sheep and lambs on many of the irregular pieces of land which are being recovered from cultivation and are not yet well grassed. Something could be done about lamb, particularly since the per capita consumption of lamb in Canada is as low as six or seven pounds—6.16 pounds in 1937—and we occasionally see imported lamb on our markets. I am convinced that if it were considered advisable to do some campaigning, the per capita consumption of lamb could be increased by 50 per cent or more without affecting appreciably beef or pork. I don't mean to be telling tales out of school, but to illustrate the scope of possibilities in boosting lamb consumption at home, I tell you that in one of my classes comprising 104 young men, 16 to 30 years of age, 22 have never tasted lamb or mutton.

Canada has three markets or potential markets for surplus beef; the home market, Britain, and U.S.A. There is a great potential market for Canadian beef or beef cattle in Britain and United States—both countries with large populations and large per capita beef consumption. There are obstacles to free movement to those markets, distance in one case, tariffs in the other, and a measurable resentment in both. Our position might be improved on both markets, were all opposition removed. The reasons for the opposition, in my opinion, are difficult to warrant for the simple reason that Canadian cattle on either market represents only a small fraction of the beef required. During the past ten years we shipped as many as 53,800 head of cattle to Britain in a single year. The average annual movement during that period, however, was only about 20,000 head. That average volume represents the beef requirements of the people in the United Kingdom for one day. Britain must import approximately one-half of her meat requirements and if we extended our exports from the average stated to 200,000 head (which seems about our annual surplus) it would represent ten days' beef for John Bull.

In our shipments overseas we have been stressing quality, and perhaps rightly so, but one feature of that British beef trade which has often been overlooked is the fact that there may be a place not alone for finished beef, but for beef of many kinds. There is a well defined demand for top quality, well finished cattle. There is a place for big cattle for Kosher trade. There is a place for small cattle of the baby order; for stores or feeders, for lean killing cattle, for dairy cattle, and even beef in cans. I do not suggest that we should attempt to supply all these, but the situation calls for accurate classification of stock shipped and it may be of great importance to Canadian producers to have an outlet for a number of kinds. It is vital that these various kinds, if they are to be exported, be directed to the proper markets, for example, quality cattle are always appropriate at Smithfield, stores of proper kind to North England or Scotland, and lean killers for Manchester trade.

The efforts of the federal Department of Agriculture in attempting to establish a dressed beef trade with Britain are most commendable. There are tremendous possibilities and the project warrants the fullest support of Canadian cattlemen. If the quality of the Canadian beef exported in sides is safeguarded, it is conceivable that the ripened, unfrosted, young sides from Canada would surpass in desirability and price anything home grown or imported on the Smithfield market.

The American market to which we have sent cattle spasmodically through the years, likewise has great possibilities. In 1937 we had the biggest year in a decade,

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sending slightly over 200,000 head, representing about one week's beef for our neighbours to the south, the way they eat beef. Adjustments in cost of production at home, accomplished mainly perhaps through reduced overhead, and the minimizing or elimination of tariff barriers, should place us in a position to utilize such a market to advantage without doing serious injury to our neighbouring producers.

I feel very strongly that we should not be satisfied with a single market for our beef products but that all avenues of outlet should be explored and, if possible, cultivated. A number of outlets must offer better security than a single market fraught with uncertainty.

The home market for beef is good, although we have witnessed a decline in per capita consumption of around 11 pounds in 10 years. The per capita consumption in 1937 was placed at 58.89 pounds. We need have no apology about boosting the consumption of animal products in this country; such an increase is not inconsistent with a stronger and better race. Worthy efforts have been put forward to encourage consumption of high quality beef and to instruct consumers about quality in the hope of receiving better prices for the best grades of cattle. That is good work but there is a great deal to be done.

Large volumes of low grade beef are placed on Canadian markets and compete with the better grades, resulting in depressed prices for all. It is generally agreed that the removal of that low grade beef would be beneficial. But in the face of all this, Canada is importing fairly substantial quantities of South American beef, put up as canned corned beef, and housewives right across this country are buying it. South American beef is being eaten in Canada while we worry about markets for the products of our widening areas of grass.

The corned beef market in Canada, if captured by home growers, might not represent an overwhelming advantage, but an advantage worth working for as one additional avenue of outlet. It would represent a market for some additional acres of grass and crop land products. As I walked through a couple of Winnipeg stores yesterday I saw:

Paraguay	corned	beef	called	Beefex	at	15	cents	for	12	ounces
Argentina	"	"	"	Helmet	"	17	"	"	12	"
Brazilian	"	"	"	Hereford	"	15	"	"	12	"
Argentina	"	"	"	Bovril	"	19	"	"	12	"

Cost in each case works out to 20 cents per pound or more. In chatting with the store clerks, various and curious reasons were given for their failure to supply Canadian corned beef. Said one, "There are no low grade cattle in Canada." Another said, "The Canadian packers don't know the secrets," and another "We don't produce enough cattle for both the fresh and canned meat trades." These are of course, the expressions of uninformed people.

In 1920, the imports of canned meat from all countries to Canada were slightly over one million pounds. In 1937, they were 12,112,526 pounds, and predominantly South American beef. From the information at hand I learn that Britain is importing about 100,000,000 pounds of canned meat, mainly South American beef, annually, and that for the last year for which I could get data, only four per cent of that was imported from Empire countries. It holds a possibility for us.

Why is Canada not preparing canned beef from home grown cattle? Several answers have been offered, none of which are entirely convincing. It has been stated that Canadians cannot compete in the quality of beef which the South Americans place in cans. In spite of claims in defence of our past policies, I am not convinced that Argentina puts her high quality beef in cans. In my opinion it is not necessary. When in Britain in 1932, the impression was obtained from Armour representatives that Argentina exports her best as chilled beef, the next best as frozen and third grade as canned beef, a perfectly logical plan.

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It is my opinion that it represents an extravagance to place top quality beef in cans because after it is canned the original quality is less discernible. Until there is satisfactory proof to the contrary, my contention is that much of the low end of our beef cattle would be highly suitable for cans. That low end of our beef is lean, tough and well flavoured. I confess that my experience in the technique of canning is limited, but observations only lead to the opinion that much fat is a handicap in canning, toughness can be overcome by proper methods of processing and the rich flavour of the old cow is an advantage.

If and when we have demonstrated that the low end of our beef can be placed in cans successfully, it would seem expedient to examine the possibilities of exporting some of it in that form. It may be argued that South America will undersell us. We do not know what can be done in that connection. It is not at all clear that South American countries can sell the low end of their cattle much cheaper than we have sold in some recent years.

Perhaps canning beef is not feasible, but we have spent Canadian money on research of distinctly less consequence. A thorough study of South American methods by persons delegated to that could be exceedingly profitable at this time and some organized research in meats would be a reasonable request. There is a tremendous amount of research and educational work to be done in meats. The livestock industry may have to assume bigger proportions in our national economic set-up in the years ahead and I am convinced that a meat laboratory in the West, dedicated to research in some of these problems that seem to be retarding the marketing of animal products, would be justified and should be sought by our agricultural people.

Finally, I have raised some questions for which I have not provided answers. Perhaps the main conclusion to be drawn is that at the present time there does not appear to be a market for more than a moderate increase in beef and other animal products and that increases should be preceded by careful study and some preparation.

THE CHAIRMAN: Thank you very much Professor MacEwan. I will now call upon Mr. W. C. McKenzie, manager of the Southern Alberta Co-operative Association Ltd., of Lethbridge, to continue the discussion.

W. C. MCKENZIE

DIRECTOR, LIVESTOCK DIVISION, ALBERTA CO-OPERATIVE COUNCIL

During the sittings of this conference you will have placed before you in graphic form the position of agriculture in the years of depression dating from 1929. The situation in western Canada during these years in large measure has been the same unenviable position as all agriculture in other parts of Canada, and in other countries.

I am confident that all those attending this conference are fully seized with the significance of the economic strain under which our farmers have laboured. I do not propose here to produce voluminous statistics in support of the statement that the years referred to have been extremely trying to the great host of farmers and farm families throughout western Canada.

During the last five years there has been forced upon all students of agricultural trends in Canada, the conviction that in this Dominion there exist two distinct schools of thought respecting the problems of agriculture.

The first of these schools takes the stand that the State is the most efficient arbiter of those agricultural problems outside the realm of actual production. The followers of this school maintain that agricultural producers, in whatever field of production their labours may lie, can most effectively confine their efforts to production, leaving the establishing of policies respecting the assembly, grading and sale of these products to government agencies.

During the past twenty years, and particularly since the economic reverses of the years following 1929, there has been developing in the minds of the agrarian people throughout western Canada a definite feeling of responsibility respecting the distribution of agricultural products. In these years our farm people have seen their once extensive domestic and foreign markets seriously curtailed, and they have learned the true meaning of the word "surplus" in its relation to farm products.

In the years preceding 1929 "surplus" as applied to a farm commodity was largely an abstract term. Since 1929 "surplus" has become a spectre hovering above prices which too often represent actual cash losses in production.

That the creation of surpluses of farm commodities, whether these have been large or small, have reacted disastrously upon the entire price structures of such commodities will be readily recognized.

With the exception of wheat, we have no burdensome surpluses in our Canadian agricultural economy.

A distinct surplus of beef cattle has existed for a number of years, but the percentage of the total production represented by the surplus is not large, being generally rated at approximately ten per cent of the whole.

Our production of lamb and mutton is approximately equivalent to the Canadian consumption of these products.

With the extensive British market open for our bacon, Canadian producers have little fear of an overproduction of hogs. Agricultural producers therefore feel that while their economic position must be influenced by the attitudes taken by countries importing Canada's agricultural commodities, the situation need not be as serious as it has been in some years. There is a constant and reasonably steady demand within the boundaries of Canada for all products of the farm and ranch, and in the minds of the agrarian people in western Canada it is the opinion that insufficient attention has been given our Canadian market in behalf of the Canadian agricultural producers.

BEEF INDUSTRY THREATENED

From its establishment in the early days of settlement, western Canada's beef cattle industry has steadily expanded. Improvement of the quality of beef animals used in the breeding herd of ranches and farms has been persistently sought, and the growth of the industry, together with this constant endeavour to improve the quality of the animals raised, has resulted in the Prairie provinces becoming the Dominion's chief area of supply.

It is generally conceded that western beef cattle, particularly those originating on the open ranges, possess health, vigor, conformation and desirable fleshing unsurpassed by similar animals in any section of the world, and with these qualifications, western Canadian cattle have long dominated not only the domestic market, but those foreign sales places to which they have penetrated.

Yet in spite of the proud production record to which the industry has been lifted over the years, it is at present insolvent. It has been in a state of insolvency for several years. Here then, is a problem that must be earnestly studied, and solved if the impressive contribution to the general agricultural economy of the Dominion made by the western Canadian beef cattle industry is to be maintained.

The problem involved centres entirely on the question of distribution. The only hope of beef cattle producers in the West lies in the securing of adequate markets for their product and the securing from these markets by the producers of values in excess of the costs of production.

CATTLE SURPLUS SMALL

Those who have studied the Canadian beef cattle situation, particularly during the past ten years, are agreed in the conclusion that a surplus exists approximating 10 per cent of the production. It has not been possible to establish a channel of consumption in the domestic market for this 10 per cent surplus.

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As a result of this situation the endeavour of some years has been to secure an outlet for the surplus. During the years 1929 to 1933 inclusive the situation was considerably alleviated by the export of live cattle to Great Britain. In these years the United States outlet was closed to Canadian producers by a prohibitive tariff.

It was found, however, that the movement of cattle to Great Britain failed in its objective. Producers had hoped that the law of supply and demand would function with respect to the 90 per cent of their cattle offerings absorbed in the domestic market, but experience definitely showed them that the prices returned for the limited volumes sent overseas established the domestic price, irrespective of supply and demand in Canada.

It may be pointed out that the net prices obtained from overseas shipments were often low. The objective behind these exports, namely, the hope that the removal of the small surplus from the country would strengthen the tone of the home market, was entirely defeated.

The situation changed in 1935 when drought conditions in the United States, and the consequent liquidation of large cattle holdings, resulted in short supplies and rapidly mounting values in that country. These made it possible for Canadian shippers of cattle to surmount a three cent per pound duty in order to enter the American market. Overseas shipments dwindled rapidly and attention became almost entirely focussed on the United States outlet.

Ability to market in the United States gave individual shippers considerable benefit. It was also found that this benefit was reflected throughout the entire domestic market.

Similar situations prevailed during 1936 and again in 1937. Continued drought in the United States maintained relatively high price levels. Reduction of one cent per pound in the duty against Canadian cattle gave added impetus to the export movement.

PRICE LEVELS REDUCED

With dramatic swiftness the situation has again altered. In the early days of 1938, prices on American markets returned to a basis of pre-drought normalcy. The reduction of 1½ cents in the tariff against Canadian cattle, attractive as it may seem, is not now a factor in making it possible for Canadian cattlemen to dispose of their surplus production across the border. Returns to producers after paying the tariff levy and selling on current market levels in the United States are again below the cost of production.

Cattle marketing history is repeating itself. As was the case when Canadian producers were endeavouring to dispose of their small surplus overseas, cattlemen are again in a position in which their returns from sales for home consumption are a reflection of the bankruptcy price levels obtained when they seek an outside market.

No reasonable minded stockman expects the total return for his livestock to exceed that gross amount paid by the consumer. He can only expect it to be on the average that amount, less a reasonable cost for processing and distributing meat and by-products to the consumer.

Four great groups have struggled to obtain a share of the vast annual total developed by these sales which has run into many millions of dollars during the last decade. These groups are the processors, speculators, retailers and the livestock producers themselves.

I have secured for this report figures submitted by the Dominion Department of Agriculture, relative to the cost of production of live cattle versus price received for live cattle by the producers. The figures here submitted on cattle sales are taken from the year book of the Department of Agriculture, Ottawa, while the figures regarding the cost of production have been taken from the records of the Domi-

nion government at their range experimental station, Manyberries, Alberta. While the figures secured include the production of cattle at various ages, I am going to cite as an example one class of beef animal, namely, that of a two-year-old steer. The cost of producing this class of animal was studied over a period of 10 years, and the results showed that the cost of producing a two-year-old steer amounted to \$6.98 per 100 pounds live weight.

The sale of the same animal over a six-year period, from 1930 to 1935 inclusive, taken from the records of the Dominion Livestock Department at the Calgary Stockyards, shows that the price received by the producer for two-year-old steers, over this period, was \$2.90 per 100 pounds, thus creating a loss to the grower of \$3.50 per 100 pounds live weight, leaving him with a loss of over 50 per cent of the cost of production. It is, therefore, not difficult to understand the insolvency of the beef cattle grower.

During this period it might be well to look for a moment and see how the processor, or packer, in Canada has been faring.

I do not wish to go into the details of the packing industry, but according to information submitted by the Hon. H. H. Stevens before a special select committee of the legislature in the province of Manitoba, on April 18, 1938, one of the large packing industries in Canada having an investment of eleven million dollars in plants and equipment, wrote off during the years 1929 to 1933 a total depreciation of \$6,134,000.

In addition, this same company paid an average earning on investment capital of nine per cent per annum over the years referred to. This, I believe, is conclusive evidence that although the livestock producers through the period referred to were not receiving as much as 50 per cent of the cost of production, our packing industry in Canada was in a flourishing condition.

That the packer should make a reasonable profit through years of abnormal prosperity is agreed. But when livestock producers suffer low prices during a depression period, while at the same time the processors of that livestock enjoy abnormally prosperous conditions, then I would say there is something wrong.

I have read with interest recently a brief on livestock marketing, prepared by Dr. Wilde, formerly of the Department of Economics, University of Minnesota, in which an analysis is submitted (this probably is one of the most complete outside of the packers' own records) showing the different factors entering into the distribution of the dressed meat and meat products that affects the rightful share of the consumer's dollar from going back to the producer.

Dr. Wilde prepared data setting forth item by item the sale of a 1000-pound beef steer; a 230-pound hog, and an 80-pound lamb, sold to the consumer in 1913 in Minneapolis, Minnesota. He demonstrated that a 230-pound hog in 1913 brought the producer \$18.01 and cost the consumer \$29.89. He then showed the sale of a hog of the same weight and grade in 1936 which brought the producer \$19.73 as against \$18.01 in 1913. The same hog cost the consumer \$54.38 in 1936 as against \$29.89 in 1913. In other words the producer's returns increased nine per cent while the increase in cost of distribution has risen 300 per cent to the consumer. Similarly, returns were analyzed on cattle and sheep and showed that the spread between the producer and consumer had widened accordingly.

And, gentlemen, I believe here is one of the great problems before our livestock industry. We should bear in mind that while this situation may affect the livestock industry in greater degree than other phases of agriculture and industry, nevertheless this widening of the distribution spread is something that is affecting all industries.

Strangely enough the development of bargaining power on the part of our producers has been little discussed by our Departments of Agriculture and political leaders. That a serious problem exists has been recognized. Our price spreads

committee, under the direction of the Hon. H. H. Stevens, has brought this matter before our government. They have looked at this problem long enough to realize that it exists, and then closed their eyes to it, with the hope that out of the blue some remedy would be submitted to right the situation.

Bargaining power is an important factor in the determination of price, and that bargaining power must be equally divided between the buyer and the seller if both sides of the industry are going to survive.

The golden age of unhampered and unlimited production is past. The age of distribution is upon us. The problem of agriculture today is not how to produce, but how to market profitably what can be produced.

The producers have turned to various governments seeking a solution of distribution. Yet, in spite of the increase of efficiency in transportation, warehousing, banking, credit, selling and advertising, the share of the consumer's dollar paid for production is constantly growing smaller and the share paid for distribution larger.

The livestock producer is becoming more and more discouraged. During the past fifteen years he has witnessed the defeat of his co-operative livestock shipping associations whose efforts have been frustrated at every turn by a powerful packer-control interest, leaving him with only a skeleton of what he once believed was the solution to the problems of livestock marketing. He also looks with suspicious eye on our public livestock terminals, knowing only too well that the commission merchant is no longer a free agent of the producer in livestock bargaining, so long as the packer uses the back door method to secure his supplies. He then analyzes the price of his finished product to the ultimate consumer and there he finds the consumer paying a price, in many cases, beyond his ability to pay, yet the percentage of that consumer's dollar which he is receiving will not allow him to carry on.

It is the belief of many leading agricultural producers in Canada that the time has now arrived when governments must direct their attention to the question of distribution through producer controlled boards, and marketing legislation for the marketing of farm produce, both in our domestic and export markets. And in this, governments should be umpires and not competitors.

The livestock producer asks himself the question, "Should I continue to try and carry on with no bargaining power, and be regimented by those who have no direct interest in my product other than buying, processing and distributing that product at a profit to themselves? Or would I be in a better position being directed through a producer-controlled board, giving me some bargaining power in the distribution of my own product?"

In placing emphasis upon bargaining power I do not want to be misunderstood. I do not believe that bargaining power alone is a cure-all for every difficulty that exists in the livestock industry. I do believe, however, that protection, encouragement and advancement of organized bargaining power are essential to the prosperity of the livestock industry.

That uneconomic practices exist among all parts of the machine of distribution cannot be denied. It is something that must be adjusted regardless of who may have to give way.

The livestock industry in western Canada means much to all of Canada, but whether or not it continues to survive under our present conditions is a question warranting deep consideration.

THE CHAIRMAN: I am sure we all appreciate the contribution which Mr. McKenzie has made to our programme and we appreciate his coming to this conference.

Our next speaker will be Mr. C. W. Tovell, Secretary Treasurer, the Manitoba Co-operative Dairies, Winnipeg, on "Markets for Western Dairy Products" (butter and cheese).

MARKETS FOR CREAMERY BUTTER

by

GORDON W. TOVELL

SECRETARY-TREASURER, MANITOBA CO-OPERATIVE DAIRIES

1. The picture of agricultural production in western Canada is fairly familiar. A wise Providence has so arranged that the Prairie provinces in years of normal precipitation can produce abundantly of wheat that is unexcelled in quality. To continue such production year after year means clovers and legumes to maintain the fertility of the soil. Clovers mean cows and bees, "milk and honey"; cows mean cattle-meat products, butter, cheese, and milk; milk means hogs and chickens. And so there is an interrelation between these agricultural products and the picture cannot be perfect without each product taking its rightful place.

2. But all these products must be marketed and there seems to be a similar relationship and interdependence in the marketing to that seen in the production. The dairy industry represents directly at least four distinct commodities—butter, cheese, condensed milk, and milk and cream for household use in liquid form; in marketing, each of these four is influenced by the others, yet each is handled by a different group—by those directly concerned with that particular commodity. If that marketing effort anything tending to largely increased consumption of one of these commodities would probably adversely affect the others and not only that, but might also somewhat influence the sale of eggs, poultry, bacon, honey, etc., as the purchasing power of the housewife often is not very elastic. It seems fitting then that in considering marketing, an effort should be made to get the most perfect picture as it concerns all agricultural commodities, each particular product being so placed therein as to enhance the value of the picture as a whole.

3. With this larger picture in mind this paper is prepared for the purpose of giving information as to present day markets for creamery butter. If you will keep before you the "Creamery Butter Chart" (See page 299) you may more readily follow the figures to be presented. The figures quoted are for 1937 and are approximately sufficiently accurate to permit reasonable conclusions. They are given for comparative purposes only.

4. In considering this paper it is interesting to note that according to the Canada Year Book, Canadian dairy production in 1937 had a value of \$228,403,000, with wheat production a value of \$182,384,000. The terms "creamery butter" and "factory cheese" used herein do not include dairy or farm-made butter or cheese. When reference is made to butter "solids" it means butter packed in 56-pound boxes (half the British cwt.) before being cut into pound prints for household use.

5. The marketing problems of creamery butter differ somewhat from the problems faced in the marketing of wheat, coarse grains, or even bacon and some others of the less perishable commodities.

(1) Up to the present, probably no attempt has been made to carry any volume of butter from one season to another; any season's production is marketed before another season opens. It may be that there is room for some research work as to the keeping quality of butter.

(2) Eastern Canada produces and markets creamery butter in much greater volume than the Prairie provinces.

(3) Creamery butter is an every-month-in-the-year production.

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(4) Canada provides a home market for all creamery butter produced in Canada during the months October to April inclusive, and only in five months of the year is there a surplus of production over consumptive requirements.

(5) Furthermore, taking the full 12-month period, Canada's consumption of creamery butter requires almost the full production—the surplus production over consumption in the last few years not exceeding about three per cent of the make, although in the present year it may reach four per cent or a little more. Consequently, with butter it is for the present not so much a problem of finding markets as it is a problem of utilizing to the best advantage the available markets, and marketing practices have a distinct influence on the absorption capacity of these markets.

6. Turning to the chart shown on page 299 and beginning at the left-hand side it is noted that British Columbia has a comparatively small annual make, between five and six million pounds, and that consumptive requirements range from 18 to 20 million pounds. Alberta in 1937 had a make of over 26 million pounds, with local consumption requirement of from 10 to 12 millions. Alberta's surplus should supply all British Columbia's shortage.

Saskatchewan had a make of about 23,000,000 pounds, with a home consumption of between six and seven million pounds. Manitoba, with a make of about 24,000,000 pounds, consumes about 13 to 14 million pounds—these two provinces showing a production above local requirements of approximately 28,000,000 pounds. Ontario showed a production of 81,500,000 pounds with a consumption requirement of about 92,000,000 pounds. Quebec with a production of 74,000,000 pounds consumes approximately 88,000,000 pounds. The Maritimes—New Brunswick, Nova Scotia and Prince Edward Island—had a production of 11,500,000 pounds, with a consumption requirement of about 20,250,000 pounds. Eastern Canada thus in 1937 showed production about 33,000,000 pounds short of consumptive requirements.

7. To bring the picture up-to-date, 1938 does not show very material change in consumption figures, but the Prairie provinces show increased production of about 6,000,000 pounds, Ontario about 5,500,000 pounds, Quebec about 4,500,000 pounds, and the Maritimes about 2,000,000 pounds, this bringing Canadian production above domestic requirements in 1938 by possibly 12,000,000 pounds.

8. A glance at the British market is revealing. Using 1937 as an illustration the consumption of butter in the United Kingdom approximated 1,079,000,000 pounds; this means almost 3,000,000 pounds per day. In addition margarine consumption amounted to 412,000,000 pounds in the year—or 1,100,000 pounds daily, consumption of margarine being approximately one-third that of butter.

Of the foregoing, imports of butter into Great Britain amounted to 1,042,000,000 pounds, the home production amounting to only about 37,000,000 pounds. Of the imports 52 per cent was from Empire countries and 48 per cent from foreign countries. Of the Empire countries, New Zealand accounted for 31 per cent out of the 52 per cent, Australia 16 per cent, Ireland 3½ per cent, and Canada a third of one per cent, Canada's amount in pounds being 3,568,432, slightly over one day's supply. Of the foreign countries, Denmark supplied 26 per cent of the total 48 per cent.

The United Kingdom's consumption of cheese in 1937 is estimated at 387,000,000 pounds, or 1,000,000 pounds daily. Of this total 329,000,000 pounds were imported with 57,750,000 pounds home produced. Of the imports 88 per cent came from Empire countries and 12 per cent from foreign countries. New Zealand supplied 59 per cent out of the 88 per cent from Empire countries, Canada 24½ per cent or 81,000,000 pounds, and Australia four per cent.

9. Recently, in correspondence, one of the old established importers of dairy produce in the United Kingdom made the following comment:

CANADIAN BUTTER

"We have not handled any Canadian butter this season, so cannot give you any first-hand information as to quality. Owing to the very irregular shipments the

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general trade know very little of Canadian butter, as bulk of this butter is sold through speculative channels and goes straight to the blenders and cheap retail trade.

"We cannot understand why Canada does not adopt a policy of exporting regularly throughout the producing season rather than accumulate big stocks in store, and then be forced to find an outlet for 100/200,000 boxes all at once.

"This market could easily absorb one or two thousand tons of Canadian butter each month from July to October, without affecting the price level, and if this policy was adopted distributors could get a regular trade going amongst the better type of retailer.

CANADIAN CHEESE

"We should say that the general distribution for Canadian cheese is getting narrower all the time. A certain number of the better class retailers buy Canadian June and September-made cheese for maturing, and these cheese are sold at 2d or 3d per pound more than the ruling shop price for cheddar cheese.

"The grinders are now a very important factor (in the United Kingdom) in the Canadian cheese market, and take a very large share of the production.

"There are no complaints as to the quality of Canadian cheese, which in our opinion is the best cheddar-type cheese made outside of this country."

Another long-established British firm of importers writes under date of November 21, 1938:

"We have handled during the past few months considerable quantities of Canadian butter.

"As supplies are irregular, we have found that it is not all buyers that will switch over to Canadian for the comparatively short period that shipments are received. Those operators who use same are very satisfied with the general quality, and if Canadian butter was coming regularly no doubt a much better distribution would be effected.

"So far as cheese is concerned, we do not operate to any extent; but we find that the specialized trade for old Canadian cheese still holds its own."

10. Apparently the quality of Canadian dairy exports is satisfactory to the British market and this in itself can be looked upon as some evidence of efficiency in our grading systems, and also of Canada's ability to produce quality goods.

11. The figures given in the chart (See page 299) suggest three probable markets.

- (1) Local—in this paper, referring to marketing within the province.
- (2) Domestic—referring to marketing within Canada.
- (3) Export—referring to butter going to markets outside of Canada.

12. In the Prairie provinces local marketing is hardly as important as in the other provinces of Canada where the local requirement is greater than the production. But even in the Prairie provinces it is worthy of attention particularly in Manitoba because here it represents over half the provincial make. Furthermore, while the surplus over local requirement affects the local price, in reality the local market condition sometimes has a strong influence on all markets. Today approximate costs in Winnipeg are—best butterfat 19 cents to 21 cents per pound at place of origin; trucking slightly over 3½ cents per pound; grading, cash tickets, etc., one cent. One hundred pounds butterfat will make 120 pounds butter. Cream alone in a pound of butter thus costs before manufacturing about 20 cents. The price of butter solids in Winnipeg today to distributing creameries or for shipment to the domestic market is 20 cents, less ¼ cent brokerage. Daily papers of December 7th

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and 8th carried store advertisements for pound prints first grade creamery butter 20 cents. Creameries are thus taking a loss; butter in some stores is apparently being used for advertising purposes or as a loss leader.

(a) Creameries because of the relative high cost of the butter make are sometimes inclined to hold for prospective higher markets and so become speculators. Also this high cost to creameries during the past few months has tended to prevent sale at lower export prices. Thus a possible market was not taken advantage of and so a heavy surplus remains in Canada and the producer is getting 19 cents where a year ago without surplus he got 26 cents. Household cream with its fixed price in the city of Winnipeg must assume some responsibility for this situation. Part planning or incomplete planning may be just as bad as lack of planning.

(b) About 85 per cent of cream coming to Winnipeg is delivered by truck; the demand for household cream at this season is strong; the goodwill of the truck driver is essential if the plant owner wants cream; part cans are numerous and it can be expected under these conditions that practices creep into the trucking of cream which tend to increase costs.

(c) Little need be said of the disturbing effect on the local market when sometimes stores sell below cost.

13. Supplying the domestic or Canadian market we have 1,269 butter factories for the most part each independently marketing its butter. This, under existing conditions, to some extent means blind competition. Speculators through purchasing generously during June and July last enhanced the domestic market price bringing it considerably above the export or British price. When accumulation of surplus could not be ignored, butter prices dropped. The natural thing to do was to export that surplus but the actual cost of butter held was high and to export meant heavy loss to creamery owners or other speculators. And in marketing in Canada, machinery does not exist with which to spread such loss equitably over the industry. So today the farmer is getting only 19 cents for best butterfat and his purchasing power is reduced accordingly.

(a) As already indicated the provinces with surplus butter are Alberta, Saskatchewan and Manitoba. The domestic markets are centred at Vancouver, Toronto and Montreal, with the occasional car going through to the Maritimes.

(b) Alberta can supply all British Columbia requirements, the freight rate being \$1.57 $\frac{1}{2}$. But if the Vancouver price becomes higher than the Montreal price it is possible that Manitoba might ship a few cars to Vancouver, the freight from Winnipeg being \$2.52 $\frac{1}{2}$, making a differential of one cent as compared with Alberta shipments. In return, Alberta then must ship a similar number of cars to Montreal or Toronto, the difference in the freight rate in shipping from Edmonton instead of from Winnipeg being about 1 $\frac{1}{2}$ cents. If, in a planned marketing, prices could be reasonably stabilized, such overlapping in freight shipments might be avoided.

(c) In the late summer of 1937, it looked as though Canada was going to have too much butter and by a voluntary agreement among some in the butter trade, over 3,000,000 pounds was exported to Great Britain. Winter production was less than expected; consumption was greater than expected; before spring butter holdings proved insufficient to meet requirements and Canada had to import. This forced prices very high, the holder of butter benefiting largely. Producers benefited to some extent but it was the season of low production. However, because of the high price, production was stimulated—as also was speculation with the 1938 production. To illustrate the price trend: the farmer today is getting 19 cents for butterfat, in June last 23 cents, in February 32 cents, and a year ago 26 cents. The trend of consumers' price was reasonably comparative—today 20 cents, in June last 24 cents, in March 35 $\frac{1}{4}$ cents, and a year ago 29 cents to 30 cents. Such fluctuations are disturbing to producer and consumer. High priced butter upsets the budget calculations of the housewife and decreases consumption. The low priced cream hits the farmer's pur-

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chasing power and both high price and low price influence his production arrangements. An average of such prices might not be unfair to either producer or consumer and such a stabilized price undoubtedly would be more satisfactory and less disturbing. The unfavorable price of the moment fills the mind while distance has dimmed the memory of the corresponding favorable price.

(d) The British market as indicated in paragraph 7 may be able to take our butter exports up to 15 or 18 million pounds per year without affecting their price level; so for the time being it only needs national effort to make this market a valuable one to the industry. However, it raises the question as to whether more effort should be made to increase cheese production and exports, correspondingly reducing butter production and minimizing or eliminating butter export. This suggests stabilization of prices in a nationally planned marketing programme.

14. Creamery operators of western Canada have on several occasions advocated marketing plans for surplus butter. In 1931 several meetings were held in Calgary, Regina and Winnipeg, a committee also visiting Ottawa and Toronto. In 1932 a Dominion conference was called at Ottawa, April 11th and 12th, and lengthy consideration was given to methods of handling or eliminating surplus butter. Because of conflicting ideas between the cheese interests and the butter interests, no agreement was arrived at but it was evident that national planning on a broad scale was favored. All efforts to arrange, on an equitable basis, any voluntary plans for export proving impossible, in 1935 the federal government under the Natural Products Marketing Act exported 6,508,338 pounds of creamery butter at a total cost to the government of \$74,138.41 or 1.14 cents per pound. With arrangements made for the removal of this surplus there was a gradual and steady increase in prices from a low of 17½ cents in June to a high of 24½ cents in the following January (Winnipeg prices of solids). This effort at planned marketing, in comparison with conditions of the present year, was apparently successful and yet without unfairness to the consumer.

(a) Then in 1937, as stated in paragraph 12 (c), taking advantage of an advancing British market a voluntary export movement resulted in a shortage later on, with consequent effects from which the producer is still suffering.

(b) In all these efforts toward planned marketing, the voluntary plans apparently failed or were not satisfactory, while the government-arranged plan of 1935 was reasonably successful and is indicative of what might be accomplished by a marketing plan for agricultural products under a permanent Canadian policy.

15. The Canadian Dairy Farmers' Federation is a national body of producers; its members are dairy co-operatives extending across Canada. At the annual meeting of the Federation held in Winnipeg on October 26th and 27th last, a resolution was passed asking the federal government to pass legislation permitting the producers of Canada to set up a board for the purpose of regulating the export of dairy products, and giving this board power to collect from the industry in an equitable way funds necessary to finance the board in its operations.

16. In discussing each method of marketing—local, domestic and export—a greater measure of planned marketing would seem advantageous. The dairy manufacturers of western Canada have on several occasions signified approval of such planned marketing in some particulars; the Canadian Dairy Farmers' Federation representing dairy producers of Canada, has signified its desire for planned marketing. Many countries competing for the British market for dairy products have to a great degree planned marketing. Then, does it not seem necessary that Canada also should make progress along this line?

17. Any plan to be effective must carry with it as a fundamental part the authority and power to make the plan workable; it has been noted that voluntary plans have not been successful. The need includes several agricultural products, it includes all provinces of Canada, and consequently the necessary empowering

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legislation would have to come at least in part, from the Dominion government. An Agricultural Marketing Board endowed with reasonable powers could do much to stabilize markets of many agricultural products. Might it not be possible that wisely planned marketing of agricultural commodities, with its resultant effect on each commodity production, would almost automatically tend to adjust agricultural productions?

18. What could such a board do in providing markets? Using butter as an illustration—any stabilizing of prices would tend to increase local consumption, thus broadening the local market. As a body with power, it could wisely handle Canadian surplus, taking full advantage of the export market yet without causing violent price fluctuations; and absence of those fluctuations which have been experienced in past years, should mean extended domestic and local markets also. As the recognized directing body of the industry it could direct, and co-operate in any wise advertising policy tending to increase domestic market requirements. In fact it could accomplish many things calculated to make markets more accessible, things impossible of attainment at present because of the difficulty of obtaining concerted action from 1,269 creameries.

The matter of judicious advertising and its effect on markets might be worthy of some thought. Right advertising is education; yet, comparatively speaking, how little advertising is done for the purpose of selling to the people, and particularly to our young people, the fact that simple agricultural commodities provide some of the best foods, most nutritious, most easily digested, and most likely to develop vigorous bodies and vigorous minds. While this is touched on briefly here yet the suggestion is left that judicious advertising is not being used to its full extent in broadening markets for butter or other agricultural products. Possibly co-operation with public health bodies or with other interested public bodies could make such advertising reasonably inexpensive, at the same time extending markets and doing a public service.

19. In any such effort co-operation is the key note; first, co-operation among producers to market their own products without blind competition; then, co-operation between producers and governments; then, co-operation between producers of different commodities so that the marketing of each would have a helpful rather than an injurious effect upon the others; then, co-operation with other organized groups such as the health bodies of Canada in an educational campaign for right foods for health; then, co-operation in research as to whether imported vegetable oils used for domestic shortening could be replaced with butter and lard. But in all these efforts, except the first, some definite body that could act for all agricultural commodities, and for an individual commodity, would seem to be necessary.

20. Then, if it is deemed advisable for Canada to set up improved marketing machinery for agricultural products, would it not be wise to immediately make prompt and thorough investigation of the marketing machinery of other countries in order that in setting up this machinery Canada may adopt the most modern and efficient methods?

21. What of the future! In the table below tabulated figures show the trend of dairy production in the ten-year period 1928 to 1937, with population figures for the same period. A careful analysis gives reason for serious thought.

	Per cent		Per cent
B.C. butter increase	40;	population increase	17;
Alberta butter increase	90;	"	18;
Saskatchewan butter increase	100;	"	9;
Manitoba butter increase	90;	"	8;
Ontario butter increase	30;	"	13;
Quebec butter increase	40;	"	15;
N. Brunswick butter increase	75;	"	10;
Nova Scotia butter increase	30;	"	5;
P. E. I. butter increase	No change	"	
CANADA butter increase	46;	"	13;
			cheese incr. 2,500,000 lbs.
			cheese decr. 3,000,000 lbs.
			cheese decr. 15,000,000 lbs.
			cheese decr. 18,000,000 lbs.

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In addition, Canada's make of butter in 1938 will be about 16 to 18 million pounds greater than in 1937. If the trend of the past ten years continues for another ten years, where will Canada then be able to market its butter? Apart from New Brunswick, the marked increase in percentage is in the Prairie provinces, the home of the wheat farmer. A very few years ago many prairie farmers would not milk cows. From varied sources outside western agriculture came the advice, sometimes very insistent, that the Prairie provinces go into "mixed farming." Educational efforts followed on this advice. Then, in the recent years of depression, income from wheat became uncertain and insufficient. The need for supplementing income became urgent and the milking of cows has become fairly general on prairie farms. If this supplementing of wheat income continues necessary or becomes greater, the cow population of the West will undoubtedly continue to increase, and Canadian butter may be in the same plight that wheat now is, actually seeking markets. Very likely cream production would continue to be a side line on the wheat farm, and the price might not affect the prairie farm to the same extent that it would the more specialized dairy farm of eastern Canada. So the problem becomes an All-Canada problem. A Manitoba Free Press editorial of December 8th, stated that the wheat growers "need government policies that will go as far as possible in insuring them markets;" surely this also applies to the producers of dairy commodities.

TABLE No. 1
CANADIAN EXPORTS AND IMPORTS FOR THE YEAR ENDING MARCH
(The Fiscal Year includes nine months of preceding calendar year
and ends March of the year specified.)

Fiscal	Creamery Butter		Factory Cheese	
	Exports lbs.	Imports lbs.	Exports lbs.	Imports lbs.
1929	1,889	25,610	112,609	1,936
1930	1,309	41,919	92,294	2,064
1931	1,163	16,501	79,590	1,685
1932	10,917	880	85,425	1,377
1933	3,206	877	85,712	1,103
1934	4,402	2,603	74,967	957
1935	447	879	60,213	967
1936	7,691	165	58,545	1,292
1937	5,141	113	80,739	1,347
1938	4,135	4,915	87,948	1,326

All figures in this table given in thousands, add ,000

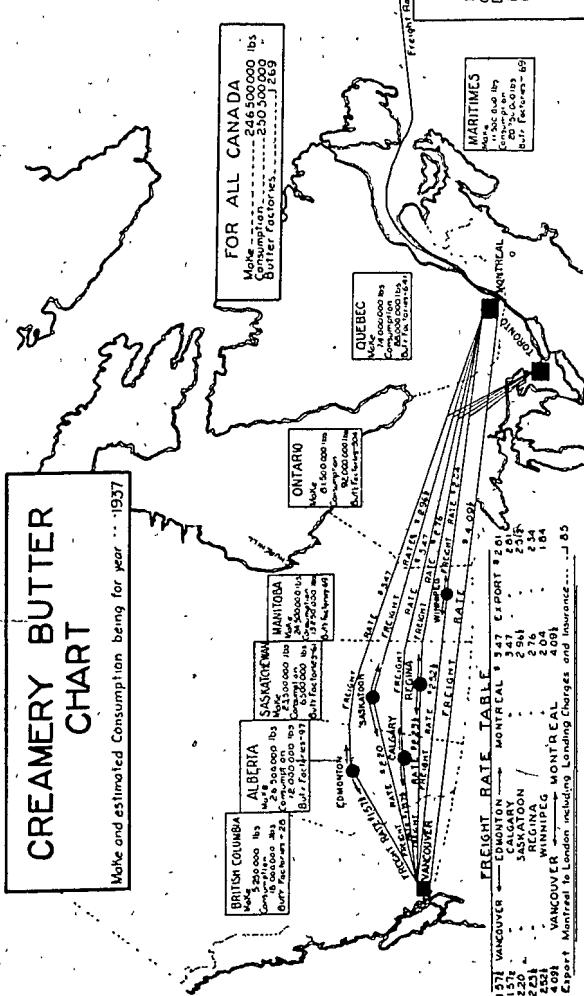
TABLE No. 2
PRODUCTION OF CREAMERY BUTTER AND FACTORY CHEESE
SHOWING CHANGE TREND IN A TEN-YEAR PERIOD

	BUTTER		CHEESE		POPULATION	
	1928 lbs.	1937 lbs.	1928 lbs.	1937 lbs.	1928	1937
British Columbia	3,691	5,225	57	244	641	751
Alberta	14,376	26,324	722	1,839	658	778
Saskatchewan	11,310	23,572	148	343	862	939
Manitoba	13,782	24,344	477	2,924	664	717
Ontario	63,733	81,227	95,562	92,256	3,278	3,711
Quebec	52,526	74,084	45,184	29,785	2,715	3,135
New Brunswick	2,092	3,624	698	597	401	440
Nova Scotia	4,479	5,874	25	Nil	515	542
Prince Edward Island	2,037	2,115	1,711	456	88	93
All Canada	168,027	246,387	144,585	128,444	9,835	11,120

All figures in this table given in thousands, add ,000

CREAMERY BUTTER CHART

Make and estimated Consumption being for year ... 1937



Montreal

London

THE CHAIRMAN: Thank you, Mr. Tovell. We have as leaders of the discussion three speakers, Mr. Mayberry, vice-president of the Ontario Cheese Producers' Association; Mr. Bailey, representing the Edmonton Board of Trade, and Mr. Scott, chairman of the Canadian Dairy Federation (butter section). We will now hear from Mr. Mayberry.

R. H. MAYBERRY

MR. CHAIRMAN, LADIES AND GENTLEMEN: Before dealing with the question assigned to me I wish to express my appreciation of the privilege of being at this important conference and listening to a thorough discussion of the problems of agriculture in the three Prairie provinces. We in the East fully realize that your problems are our problems, that no part of Canada can be segregated agriculturally and that an effective permanent solution to any agricultural problem can only be arrived at, after a comprehensive survey from a national viewpoint of all the factors entering into the situation.

I have been asked to outline the present butter situation in eastern Canada. Correctly speaking there is no such thing as an eastern butter situation *which can be dealt with as such*.

Dairy production all over Ontario and Quebec of butter, cheese, condensed milk, and milk for fluid consumption takes place in such close proximity that a depressed condition in one line of production simply means a diversion of milk from that commodity to some other commodity.

After seventy-five years of operation it has been pretty thoroughly demonstrated that the most advantageous distribution of our milk supply is to allow the condenseries and fluid milk markets such quantities as will supply their requirements, and supply the creameries with sufficient quantities of cream to produce enough butter to supply eastern Canada's consumptive requirements after allowing for absorption of western Canada's normal surplus of butter production and then divert our surplus milk production into Canadian cheddar cheese, of which approximately one-third is consumed in Canada and two-thirds is exported to the United Kingdom. In this way cheese has become known as the safety valve of the Canadian dairy industry. While only about eight per cent of our total Canadian milk production goes into cheese, its stabilizing influence on the entire industry is far greater than the quantity would indicate.

In view of the fact that western Canada may find it necessary, due to world conditions, to decrease her wheat acreage a brief outline of conditions in the cheese industry and its possibilities as an outlet for farm production should be of some interest.

As the preceding paper has covered the statistics of the dairy business, I will try to present the picture of the possibilities along this line without burdening you with figures where it can be avoided.

In 1864 the first cheese factory in Canada was opened in Oxford County, Ontario.

The industry developed rapidly and it was not long before an export trade to the United Kingdom was well established.

After forty years of steady advancement the industry reached its peak of production in 1904 with approximately 250,000,000 pounds production and 230,000,000 pounds exported. It had established itself in a dominant position on the English market.

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About this time changes were taking place in Canada which required greater quantities of milk for domestic use, mining, lumbering and western wheat areas were developing, requiring more butter, our population was increasing and our per capita consumption of butter was increasing, the condensing and powder milk factories began to make their appearance, the ice cream trade was on the increase, with the result that our exportable dairy surplus became less and less until in 1934 our exportable surplus of cheese only amounted to 58,000,000 pounds.

During this period of recession in Canadian cheese exports, the dairy industry of New Zealand was developing rapidly and her cheese exports filled the market vacated by the Canadian product. I wish at this time to make it clear that Canada was not forced out of the market by increasing New Zealand supplies, but voluntarily withdrew to supply more remunerative markets for milk products in Canada.

The cheddar cheese most in favour on the British market, is the English cheddar made on the farms in England, and it enjoys a premium of about ten shillings per cwt. over the price of any imported cheddars. The most desirable cheddar cheese imported is Canadian, and many produce men say that it is almost impossible to tell finest Canadian from English farm house cheddar. In fact, since the British Milk Board started operations five years ago, it has endeavoured to increase fluid milk consumption with a resultant smaller quantity of milk being available for cheese production, and it is stated that finest Canadians are used where there is a shortage of home farm cheese.

The reason for the preference for Canadian, over cheese from the other British Dominions is that due to climatic and other conditions, New Zealand, Australia and South Africa, all find it necessary to pasteurize their milk before making it into cheese; while our Canadian climatic conditions will allow us to produce cheese from unpasteurized milk, and it has been found that cheese from unpasteurized milk will go on and mature a desirable rich cheddar cheese flavour for a year or more, while cheese from pasteurized milk cannot be depended upon to develop advantageously after six months of age.

This same quality in Canadian gives it first choice with the makers of processed cheese as a certain amount of fully matured cheese blended with other grades imparts that cheddar flavour to the whole quantity. It has been estimated by competent authorities that 400,000 boxes of Canadian cheese are used each year by the process cheese manufacturers of Great Britain.

Then, too, there are certain firms who select a certain quantity of Canadian cheese to fully mature for a select trade in old cheddar cheese.

Thus it will be seen that Canadian high quality, has resulted in about one-half of her export quantity being removed for a special purpose and never enters the ordinary distributive retail channels as Canadian cheddar.

After having had an opportunity to personally visit many dairy farms and factories in New Zealand and see their wonderful pastures and herds where their better farmers are carrying 100 milk cows and some young cattle on 100 acres of land and obtaining approximately five times the quantity of production per acre as is possible in Canada, without feeding of concentrates or providing barns, it is some satisfaction to know that our more rigorous climate makes possible for us an advantage in quality which gives our product a premium place on the markets of the world.

The British market for our type of cheese is of long standing and is well supported by a good consumptive demand of between 8 and 9 pounds per capita. The consumption of cheese does not vary with price fluctuations so rapidly as does the consumption of butter.

There are certain forces at work which are tending to curtail supplies of high quality cheese to the British market.

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In processing milk into butter and cheese we find that one pound of butterfat represents approximately one and one-fifth pounds of butter, or two and one-half pounds of cheese.

As labour and transportation costs are relatively higher in the large dairy producing countries of the southern hemisphere than in Canada, they have turned more extensively to butter production as their dairy production increased than they have to cheese production, which has been a factor in an increase in imports of butter into the United Kingdom of 61 per cent during the past decade, while during the same time cheese imports have actually decreased by 13 per cent. Due to economic forces operating within her borders New Zealand has decreased her exports of cheese somewhat and a further decrease is not improbable. Let me read you a short extract from the argument presented by the dairy industry representatives to the New Zealand government price setting committee in August, 1938:

"Last season's operations resulted in a decrease of six and a half per cent in our output. Some of this decrease may have been due to poor producing conditions operating in some parts of the country, but it was also contributed to by a decrease in the cow population. There is every reason to believe that this decrease will be further accentuated this coming season as the number of calves reared in 1936 was less than that found necessary to maintain the herds of the Dominion over the past three years. In 1937 the number of two-year-olds coming into production was only 75 per cent of what it was two years previous."

"The desperate efforts made by farmers to increase production during the slump years, in an endeavour to meet their commitments is not capable of repetition today, as this increase was achieved solely by carrying a larger cow population. I consider that in practically all of our larger dairying districts the saturation point insofar as the ability of our land to carry stock is concerned has, in the light of our present knowledge, been reached."

In Great Britain the regulatory action of the Milk Board and their endeavours to increase the consumption of milk in liquid form has led to a reduction in the quantity of milk available for the manufacture of their high quality farm house cheese.

It would appear, therefore, that the British market would absorb greater quantities of high quality Canadian cheddar cheese than are being sent forward at the present time.

As a matter of fact there are indications that our volume of export has decreased to such a point that the amount available for the regular distributive channels is so small that they are losing interest due to the uncertainty of available supplies when required. It is, therefore, probable that an increase in the volume of Canada's exports of cheese would improve her position on the market, providing it was of finest quality. The question as to what extent Canada might increase her cheese exports without jeopardizing the price structure of the product could not be answered definitely in advance.

We know that in any year our exports have increased, the increase has been absorbed without disturbing the market.

In 1937 our export increased by, and was disposed of, at prices slightly higher than those obtained the previous season.

The most important factor in determining the quantity of increase is the quality of the product. We have the reputation in the United Kingdom, established over 75 years' experience in trading, of producing the finest quality of cheese obtainable from import; we also have the conditions which make it possible to maintain that reputation and it should be our business for the good of the Canadian dairy industry to see that it is maintained.

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If, in the future, supplies increased to the point that the market was over-supplied our long standing reputation for a quality product would be of great assistance in maintaining our position. However, such a condition does not seem imminent.

Export cheese returns several cents a pound butterfat more than does butter, and aside from this an argument against producing butter for export is the fact that our small intermittent exports of such quantities of surplus butter as are proving burdensome to our domestic market, have not tended to establish a definite demand for our best butter and consequently it sells at a lower price than Danish, New Zealand or Australian finest brands.

Owing to the fact that the plants and equipment are already in operation and the production of creamery butter is well established in certain areas, it must be borne in mind that Ontario and Quebec will probably continue to produce the major portion of their butter requirements and that any substantial increase in western dairying would necessitate the expansion of the western Canada dairy industry in the direction of export cheese if the most advantageous market is desired.

The question may be asked could anything be done to increase the efficiency of production and marketing methods employed in the cheese business of eastern Canada.

It must be remembered that the dairy industry was one of the pioneer agricultural industries of the East, and that manufacturing methods and transportation facilities have improved enormously during the past 75 years. While manufacturing methods have improved in line with present day requirements, the small uneconomic plants exist which present a problem in the securing of capable management, uniformity of product and unnecessarily higher costs of manufacture. The task of reorganization would be difficult and apparently could not be undertaken solely by either a producer group or a government, but will have to be undertaken by close co-operation between the two.

In this short presentation of the immediate situation I have not tried to forecast future conditions in the available markets for dairy products.

There is, however, a decided trend in most dairy producing Dominions toward increased production, Australia possibly presenting the greatest and most immediate possibilities along this line. With her vast undeveloped areas of fertile land, within the productive section of her country, and the declared policy of expansion, such items as the following appearing in Australian papers need not surprise us:

The Queensland Producer of October 26, 1938, says:

"Butter exports from the Commonwealth for July and August this year were 200,281 cwt., an increase of 112,244 cwt. Increased exports were reported in all states except South Australia. Queensland led with an export of 161,641 cwt. as against 97,915 cwt. for corresponding period last season."

Another item stated:

"New lands in North Queensland now being prepared for settlement. The areas, states the report of the Land Administration Board tabled in Parliament on October 19th, comprise mainly tropical jungle land and rich volcanic soils."

"Rainfall is assured and drought unknown. The area total, 79,200 acres, is considered ideal for dairying and mixed farming purposes."

With markets already abundantly supplied, the future outlook is not bright unless producing nations take a common-sense view of the situation, and agree to stabilize markets by fitting the quantity of exports to the consumptive capacity of the markets.

"THE CHAIRMAN: Thank you, Mr. Mayberry. We will now hear from Mr. R. H. M. Bailey, representing the Edmonton Board of Trade.

MR. R. H. M. BAILEY

MR. CHAIRMAN, LADIES AND GENTLEMEN: I hardly know whether I have been promoted or not since you introduced me as representing the Edmonton Board of Trade when actually I am here as a result of the courtesy extended by the Edmonton Chamber of Commerce to a representative of agriculture. I think I had better put myself right with this audience for fear they will wonder where I get the particular views which I hold in regard to the dairy industry in Canada. I might state that I am the managing director of the Alberta Provincial Milk and Table Cream Producers' Association of the province of Alberta; also a director of the Canadian Dairy Farmers' Federation.

On behalf of the Edmonton Chamber of Commerce I wish to thank you, Premier Bracken, for having extended to that body an invitation to be represented at this conference. In order to explain to you how I became a delegate of the Edmonton Chamber of Commerce I may state that the Edmonton Chamber of Commerce have what they call their agricultural section. When the invitation was received by the Edmonton Chamber they turned the matter over to their agricultural section, which body invited a group of representative farmers from around the city of Edmonton to attend a meeting for the purpose of discussing representation at the conference. As a result of this meeting and the discussion I was appointed as their delegate.

Mr. Chairman, I am going to try and give you and this audience a break in not reading the paper which I had intended to give in which there is a considerable number of figures. I had a dream last night and in that dream I was walking up and down the chart which Dr. Sanford Evans prepared. You remember how black it was and how many pit-falls there were. However, I managed in my dream to get to the top and I thought I saw the light and the great problem of wheat was solved and when I woke up it was the coldest morning we have had in western Canada this year and I again realized the problem of wheat remained unsolved. Then another problem of agriculture came before my vision. A problem that can be solved within the Dominion of Canada. In view of the state of my own mind I am going to tell you what I know of that problem. In doing that I am going to ask you in your own minds to consider me as one of those dairymen of western Canada and then later you can compare that with the picture of the dairymen in Ontario and Quebec.

I am going to use a part of a paragraph of Mr. Tovell's paper as a text, in which he states, quote: "That over a period of years the surplus butter in the Dominion of Canada has been ranging around three per cent and the present year is approximately four per cent." This small surplus controls price. I claim the solution of this problem rests within the Dominion of Canada, that the remedy lies within the Dominion of Canada and within the power of the federal and provincial governments. It is not a problem of the wheat grower who is concerned with foreign markets, it is concerned only with the Canadian market and the domestic markets within Canada, as I see it. I believe and I think that you will believe with me that the thing to attack first in any problem of any market is the thing you can solve. Is that sound? With that in view, the producer organizations throughout Canada, federal and provincial, have been attempting in their own conferences to try and find a solution for that particular problem, a problem of butterfat for churning cream purposes, which stands out like a sore thumb in the dairy industry of Canada.

Last year, in November, using Alberta figures, which apply to the whole of the Dominion of Canada from the standpoint of averages, the price to the primary producer of butterfat that went into the churn was 26 cents. This year it is 17 cents, for the same month. In Alberta, with a production greater by 71,000 pounds in November this year over November last year, the primary producer is receiving

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approximately \$100,000 less. From the standpoint of the operator, manufacturer of cream, it does not mean so much because the over-run remains the same whether butterfat is 10 cents or 40 cents. Normally of course, the operator makes more money on the over-run when the price of butterfat is high. The problem therefore is mainly a problem of the primary producer, whom the Dominion government is in duty bound to assist. As the Alberta production represents approximately ten per cent of the production in Canada, and taking their loss at \$100,000, you have a \$1,000,000 loss in the whole of Canada to the primary producer in the month of November this year as a result of a very small surplus dominating price which the producer receives.

If the producer could get hold of that surplus, and it would probably take a lot of detectives to find that 10 million pounds of surplus if anybody really wanted to buy it, but if you could locate it and you could buy it and assume what the operator assumes by taking that 10 million pounds off the market, you would bring the price back to say, the normal price of 1937, you could buy the 10 million pounds and throw it into the ocean and recover the loss out of the increased price that would occur as a result of taking that amount of butter off the market in less than two months. Why can't we apply the practices of big business in solving our problems? Ours is a big business. That is the way they would handle it.

I am now going to give you the psychology, as I see it, of the producer and producer organizations throughout Canada as a result of the position that the Dominion Agricultural Department have taken in their refusal to do anything to relieve a very serious condition.

Producer organizations, such as the Canadian Dairy Farmers' Federation and operator organizations such as the National Dairy Council, feel that all their efforts have been futile. Mr. Tovell in his paper read the resolution of the National Dairy Council asking for a Dominion conference to consider the dairy situation in Canada, but there is one thing he did not tell you about and that is in the preamble of that resolution there are set out resolutions since 1934 dealing with marketing problems and in the resolution it just simply states "owing to none of the aforesaid resolutions being implemented by the Dominion government we now ask for a conference."

Having in mind the seriousness of the position of the dairy farmer producing butterfat for churning cream purposes, the Dominion Department of Agriculture has been approached on many occasions by both of these bodies asking for assistance by way of implementing legislation, which would provide for the industry to run its own business and to place the industry in a position to stabilize the market. Up to the present time the Dominion government Department of Agriculture, has not seen fit to make any move regardless of these repeated requests until the present time.

Many of the leaders in the producer organizations feel it is useless and a waste of time presenting plans to this department. We are not asking for subsidy. We are willing to pay all the costs of any plan for solving the problem. We just ask the consideration of the government to the facts of the case. We believe that if the Dominion government will give the time and attention required, that this problem, of a very small percentage of the total production dominating the primary producers' price and costing them millions of dollars, could be solved. The producers are ready and I believe the operators are ready. Is it not the duty of the government to work for and with those who contribute so much to the economic life of Canada? In 1937 the dairy industry in Canada poured into the economic life of Canada approximately 46 million dollars more than the total of the Canadian wheat crop. Should an industry of this nature not receive more consideration from the Dominion government?

In conclusion, I would like to tell this story of a young man in the province of Alberta, a graduate of one of our Agricultural Colleges who decided to make his life

work farming. In connection with his general farm scheme he decided to keep some milk cows. One morning as he was milking, in a sort of a humorous way he decided to try and find out what he was getting for his labour. By the time he had finished milking that morning he figured out that he was making 500 pulls for a cent. This "pulling" which means approximately 280 million dollars per year in the economic life of Canada apparently does not carry very much "pull" with it.

I want to congratulate Dean Shaw on his paper which he gave this morning dealing with the livestock industry of the Dominion of Canada. I want to congratulate him also for the efforts that his department has put into the question of trying to provide a market for Canadian livestock. But there is one thing which I wish to draw your attention to which I think is significant as to the attitude of his department towards producer organizations and that is, quoting from his paper, "Committees made up of federal officials, the co-operating trade and their agents, meet each week in Canada and Great Britain to consider the various aspects of the project." I am willing to bet that in Great Britain there are producers on the committees set up. Why are there not producers on the committee set up to deal with this important matter? Whose beef is it anyway? I suggest, by way of friendly challenge to the Dominion Department of Agriculture, that they meet with the producers and operators in Canada to solve this problem of the price to the primary producer for butterfat for churning cream purposes, which stands out so glaringly at the present time in the dairy industry of Canada, affecting, as it does, so seriously, the men, women, girls and boys who work on the dairy farms throughout Canada, who mean so much to the whole economic life of Canada, and treat the problem in a human way as it should be treated.

HON. D. L. CAMPBELL in the chair.

THE CHAIRMAN: LADIES AND GENTLEMEN: I think you will agree with me that in dealing with the "pulling" industry and the necessity of "pull," that he put a great deal of punch into his address.

We are now going to hear from Mr. R. J. Scott, chairman of the Canadian Dairy Farmers' Federation.

MR. R. J. SCOTT

MR. CHAIRMAN, LADIES AND GENTLEMEN: I represent on this occasion some 22,000 farmers in the province of Ontario. I want to assure you that it is a privilege and a pleasure to accept the very kind invitation of Premier Bracken to attend this conference. As I listened throughout your sessions it was quite apparent that the problems that you people were endeavouring to ascertain the facts about were exactly the same as we have in the province of Ontario. I want to say further that I feel very keenly that we are in the same house with you, and that if you turn on the gas meter in that house we will not be any better off because we are looking out the east window. So far as the dairy industry is concerned we naturally have a rather acute problem; so far as our limited wheat acreage is concerned we have the same problem that you people have in western Canada. When I tell you that we were delivering wheat in some instances to our local elevators at 48 cents this fall, for the best quality of wheat, you will realize our position in that regard.

In regard to dairying I want to say that some time ago the dairy organizations in the province of Ontario undertook perhaps the most comprehensive survey of the costs of dairying in that province that had ever been undertaken. In connection with the economics branch of the federal Department of Agriculture a very

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close survey was made on some 1,400 farms, running throughout a full year. When I say it was complete I think you will agree with me when I tell you that the representatives of the economics branch and of the Agricultural College attended nearly all of those farms. I want to give you briefly some of the results. Out of that representative analysis we found that it cost the farmers in the province of Ontario on an average basis over 40 cents a pound to produce butterfat; that their labour income was 4/10ths of a cent per hour, or four cents a day, or about \$15 a year. Mr. Bailey, if you could figure how many "pulls" that would be for \$15, I can assure you we would be glad to share it with you people in the West.

Mr. Mayberry made mention of something in his address in respect to a question which he raised, could anything be done to increase the efficiency of production? It does seem to me that at the present time we are in the experimental stage in regard to something that may be a very substantial factor in reducing the cost of production on Ontario farms. I say it is only in the experimental stage, but it holds very wide possibilities. It is one of those research items that is very intriguing to me, at least, as a dairy farmer. The farmer in the New England States is swinging quite rapidly to grass farming. By grass farming I mean the ensiling of grasses instead of corn, preserving them by certain chemical preparations, and feeding grass the year round. It was significant that Mr. Mayberry suggested that while perhaps we had some advantages in respect to quality, we had substantial disadvantages in respect to climatic conditions and costs of production in Canada in relation to volume as compared with some of our competitors in the Southern Hemisphere.

The reason we are interested in this new experiment which is now being to a degree carried on in Ontario, is that we found in our province that we had been mining our soil, and that we had in certain districts in Ontario withdrawn from the soil such a large proportion of phosphorus that the butterfat content of our milk was declining very seriously. It is because of this effect, Mr. Chairman, that I wish to suggest why this is being done. It is pretty well agreed that if you cut down a field of hay and take a chemical analysis of it in the condition in which it is cut down immediately, you will find that you will have somewhere around 14 per cent protein in that analysis. But if you allow that hay to cure in the sun for two or three days, and then place it in your mow in the barn and take an analysis of it, you will find that your protein analysis has fallen from about 14 per cent to between seven and eight per cent. In other words, this is the situation: The farmer having produced a product on his farm which contains 14 per cent protein then allows, by methods largely within his own control, the protein content to decline to seven per cent, and then in turn goes into the market and buys concentrates at an approximate cost of \$1.00 per unit of protein.

It has some other advantages in that it retains within it in the ensilage state a very much higher percentage of phosphorus, and it retains vitamins, and carotin, apparently lost in sun curing, which provides a richer colour to the milk.

The way that is done, and done very successfully in New York State, is by applying one gallon of liquid phosphoric acid of 68 per cent to a ton of alfalfa. They have learned over there that an acre of alfalfa, well fertilized, will produce as many tons of feed as an acre of corn well cultivated; that it is a perennial crop instead of an annual, and entailing, as it does, very much less labor. Should this materialize in any way appreciably in Ontario, you in western Canada may find a lesser market for cereal grain as concentrates. I simply suggest that because it is a factor in the dairy economy in this country.

I want also at this time, Mr. Chairman, to convey to you the greetings of our sister organization in Ontario, the United Farmers of Ontario, although I am not an officer of that organization. They are intensely interested in this conference. I think Premier Bracken has done a masterly job. I am sure it is a start in the right direction. I do, however, feel there are one or two things I might be permitted

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to emphasize. There still seems to be a feeling among certain people, and some farmers, that somehow or other because in past years agriculture recovered, it will recover again; that because farmers made money some years ago, they will one of these days make money again. I submit that the reason agriculture was prosperous all through that period which we think of, was because there was an expanding agriculture, and a voluntary flow of capital into agriculture in enormous quantities. In 1929 and 1930 that stopped. There is an entirely different picture today. Methods of marketing alone, unless you take a very wide comprehensive view of the word "marketing," are not a complete answer to the problem. I think there are new economic factors that have entered quite recently, at least within the last few years, affecting conditions of farmers that are beyond the scope of solution within the realm of marketing.

There is the monetary factor, the fiscal factor, controlled economic factors, military factors, all these have an immediate and momentous effect upon the condition of the farmer. Therefore I was intensely interested last night to hear Mr. Brockington suggest that we take a sensible view of the situation and relate the economy of the farm people in this country definitely to the obligations that they have facing them, to the creditors, to the farmers, and to the people that will come after them.

Let me say, in conclusion, that people afraid to face the problems of their time deserve nothing but defeat. I am not certain where we will find the answer; but I am certain that within the authorities of Canada somewhere a substantial and unique contribution can be made to Canadian agricultural prosperity. I will say this that if there is a portion of Canadian agricultural products that must find markets at distressingly low levels, that part should only represent the portion which lies beyond the competence of the farmer himself, the farmers' organizations, the trade, and the governments to find a solution for.

THE CHAIRMAN: Thank you, Mr. Scott. Although we are some distance behind our schedule we do not want to leave this subject, and if there are some questions that should be asked of any who have taken part in the subject under discussion here, they can do so now.

MR. FARMER: I would like to ask one question, Mr. Chairman. On the chart that we have with us, the consumption of creamery butter for Manitoba is shown as 13,250,000 pounds. For Saskatchewan, with somewhat larger population, it is only 6,500,000 pounds. Can we be told how much of that difference is due to a larger consumption of dairy butter, that is butter I suppose made by the farmers themselves, and how much is due to the general unfortunate economic conditions in Saskatchewan reducing their purchasing power?

MR. TOVELL: In answering that question I may say that those consumption figures were arrived at in a rather laborious method. We know from Dominion statistics the average consumption per capita of butter in Canada. By taking the population of any province, multiplying it by that consumptive figure, and deducting therefrom the dairy butter production, which is also given us, we get presumably what would be factory butter consumption. In addition to that advice was obtained from some dairy commissioners and some distributors in each province, and the figures obtained by the first method were somewhat modified by their estimates and by prevailing conditions in that province. I may say in the province of Saskatchewan, the estimates given from that province agreed with the figures arrived at in the first place, so that I judge Saskatchewan's consumption of butter is not less per capita than in the other provinces.

THE CHAIRMAN: As you will see by our programme we are to have at this time a paper on "The Western Poultry Industry and its Marketing Problem," by Mr. W. A. Landreth, president and general manager of the Canadian Poultry Sales Ltd.

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THE WESTERN POULTRY INDUSTRY AND ITS MARKETING PROBLEM

by

W. A. LANDRETH

PRESIDENT AND GENERAL MANAGER, CANADIAN POULTRY SALES LTD.

In the following memorandum, I have endeavoured to outline briefly those factors which I believe to be fundamental to the development and prosperity of the Canadian poultry industry.

1. Production:

- (a) Breeding.
- (b) Hatching.
- (c) Feeding.
- (d) Housing.

2. Marketing:

- (a) Grading.
- (b) Packing.
- (c) Merchandising.

I.—PRODUCTION

The following are quotations from federal statistics as at June 1, 1937:

Canadian Poultry Population:

	Hens	Turkeys	Ducks	Geese	1937 Total
Prince Edward Island	826,200	11,800	13,900	26,300	878,200
Nova Scotia	1,211,600	15,700	5,100	11,700	1,244,100
New Brunswick	1,289,900	26,600	8,500	14,300	1,339,300
Quebec	7,362,300	110,700	69,000	61,100	7,603,100
Ontario	21,314,300	425,400	350,300	446,200	22,536,200
Manitoba	3,832,000	392,600	35,900	72,500	4,333,000
Saskatchewan	8,116,000	524,000	74,200	111,100	8,825,300
Alberta	6,161,100	444,500	64,900	123,000	6,793,500
British Columbia	3,869,500	46,600	32,600	8,700	3,957,400
					57,510,100
					1935 56,768,800
					1936 59,298,200

Egg Production:

	1937	1936
Prince Edward Island	3,246,000	3,435,000
Nova Scotia	4,022,000	4,040,000
New Brunswick	4,489,000	4,684,000
Quebec	33,166,000	32,566,000
Ontario	82,100,000	83,550,000
Manitoba	16,597,000	16,432,000
Saskatchewan	35,352,000	36,011,000
Alberta	24,519,000	22,975,000
British Columbia	15,942,000	15,801,000
Total	219,443,000	219,494,000
		1935 223,540,000

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1. (a) Breeding:

The foundation of the Canadian poultry industry must be established in its breeding stock. The Canadian poultry industry did not show any evidence of development until producers forgot about fancy feathers and began to realize that a hen's value is limited to the number of eggs it produces and that turkeys, cockerels, ducks and geese are sold by the pound.

We believe that breeding should be standardized; that in western Canada, we should feature Barred Rocks and White Leghorns. British Columbia breeders have done a particularly good job of developing a strong, vigorous strain of White Leghorns. On the Prairies, there is an increasing number of high producing Barred Rock flocks. Bronze turkeys appear to have most of the qualifications to withstand our northern climate and their conformation can be adjusted to market requirements. The commercial value of standardized breeding is in that it eliminates the injurious results of cross-breeding, which usually proves disastrous after the first generation. It further makes available within the standardized breeds, a dependable supply of selected breeding stock in all production areas.

1. (b) Hatching:

The development of a constructive hatchery policy under definite regulations and supervision is in our opinion essential to the best interests of the industry. We believe all commercial hatcheries should be operated under license; that they should not be allowed to receive eggs from any but blood-tested Approved Flocks or R.O.P. Flocks, and that before approving a flock, the integrity of the flock owner seeking approval should be satisfactorily established; that the establishment of community hatcheries should be encouraged; that there are unnecessary cost and hazards involved in shipping eggs and baby chicks great distances.

1. (c) Feeding:

Efficiency and economy in the production of poultry products must necessarily be governed to a great extent by the quality and the cost of the feed utilized. A pullet must be looked upon as a potential egg factory and a young cockerel or turkey pullet visualized as a family dinner. We believe that the most practicable development of the Canadian poultry industry should be on the farms. Under normal crop conditions, most Canadian farms produce a quantity of wheat, oats, barley and possibly some sweet clover or alfalfa. These grains proved a high grade poultry ration for either egg or meat production. A great deal of encouragement could be given to poultry producers by familiarizing them with practicable methods of utilizing to best advantage the feed produced on their own farms. This could possibly be best accomplished by seasonable radio talks on feeding from our Agricultural Colleges and through the medium of weekly or monthly articles in the most popular farm publications. Consumer demand cannot be created for the product of a scavenger hen, nor can thin, unfinished chickens or turkeys be marketed to advantage.

1. (d) Housing:

It is unfortunate that on many Canadian farms where horses, cattle and hogs are provided with adequate housing, little if any provision is made for the poultry. In these days of economic distress it would be difficult to create ideal housing facilities. However, it is essential that, irrespective of how humble the poultry house may be, it should be clean and dry and in the Prairie provinces, where there is usually an abundance of straw for litter, this should be possible. Sanitation is the best insurance against disease. Hundreds of thousands of dollars are lost every year due to unsanitary, inadequate housing conditions.

2.—MARKETING

2. (a) Grading:

The greatest contributing factor towards increased consumption of poultry products has undoubtedly been the establishment of grade standards. The average consumer buys a graded product with some degree of confidence. The federal De-

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partment of Agriculture is to be commended on its constructive efforts to familiarize consumers with grade standards and specifications. The most progressive and advanced legislation in respect to grading of poultry products in Canada is to be found in the Livestock and Livestock Products Acts of Manitoba and Saskatchewan. Unfortunately, there still exist a horde of dealers, commonly called "boot-leggers," who still manage to carry on rather extensive operations in ungraded poultry products. They are possibly the greatest menace we have to the development of the poultry industry. On the one hand, they cater to that portion of our producers who are indifferent as to the quality of the product they market, and on the other hand, they abuse the confidence of the consumer by misrepresenting the quality of their supplies.

In those areas of the world which are recognized for the quality of poultry products they produce, the state does not tolerate the operations of illegitimate dealers. We are frankly of the opinion that there can be no material development in the poultry industry of either western or eastern Canada until there is a rigid enforcement of grading regulations. Our experience in the poultry industry leads us to the conviction that those who complain most bitterly of regulations in business are those who wish to retain the individual liberty of destructive and unethical practices in their operations.

2. (b) Packing:

The natural sequence to standardized grading is efficient methods of packing. Packing involves economic and practicable assembling of the products; proper facilities in respect to temperature and sanitation and volume sufficient to guarantee the product reaching the consumer with the least opportunity for deterioration.

Dirty egg cases, fillers and flats should be eliminated in the packing of a product so susceptible to contamination. Old packing cases, baskets and barrels are not suitable containers for so perishable a product as poultry meat. Unfortunately a large percentage of the poultry products in Canada are still being packed or transferred from producer to consumer in this manner. Government regulations clearly specify the use of standard cases, fillers, flats, etc., and it is to be regretted that the continued abuse of these standards should be so generally practised.

Western Canada is to be congratulated on the progress which has been made in its dairy industry, under the regulations governing the marketing of cream; the outstanding features of which are that all creameries are licensed; and that facilities and equipment assure the efficient processing of the product. Before a license is granted to operate a creamery, those charged with the responsibility of administering these regulations must be satisfied that all regulations will be adhered to. The regulations are recognized as the most practicable form of protection for the producer, consumer and creamery operator.

There is considerable evidence that the Canadian poultry industry is being seriously handicapped in its development, due to the apparent reluctance of our federal and provincial governments to make any concerted effort towards making effective the type of regulations in respect to packing of poultry which have proven so beneficial to the western dairy industry.

2. (c) Merchandising:

We have purposely left any discussion of the actual sale of poultry products until we had briefly reviewed those factors which contribute towards establishing consumer demand. Our comparatively new, great modern automobile industry would not enjoy such demand for its product had it not developed a high standard of mechanical perfection.

The future prospect of further development in the poultry industry appears to be definitely limited to the possibilities of increased domestic consumption and to increased exports to the United Kingdom. We are apparently producing in excess

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of domestic requirements. The export field is often featured with considerable enthusiasm by those not too familiar with the problems involved.

Considerable publicity has been given lately to the new Anglo-American Trade Agreements. In our opinion, the new agreements offer no possibility of increasing our export trade with United States in poultry products. While there has been some reduction in the tariff, the new tariffs are still prohibitive. All markets in Europe with the exception of those of Great Britain are definitely closed unless some system of barter under special agreement can be reached. Canada's preferred industries appear very reluctant to allow the entry of industrial products from Central Europe. This leaves our export outlet limited to the United Kingdom, where the surplus foodstuffs from all corners of the world enjoy, to a large extent, an open market.

Imported eggs of varied quality are sold on the British market at prices ranging from 12 to 20 cents per dozen during March; to 24 to 36 cents at the peak of values in November. The higher values quoted are for strictly fresh high grade packs from Denmark. The lower values are for the packs from Central Europe, China or South America. There is no possibility of us shipping any volume of fresh eggs to the United Kingdom because our period of heavy production is the same as theirs. Our exports must be confined largely to the shipping of stored eggs in the autumn when their markets have reached higher levels.

We have in Canada some of the finest storage facilities in the world. The latest development along this line has been air conditioning which has practically eliminated the possibility of undesirable flavours and shrinkage. The greatest price realization we can hope to receive on that market is not over an average of 26 cents per dozen, c.i.f. To arrive at the highest net return to producers, the following costs must be provided for: transportation from areas of production to cold storage and from cold storage to the United Kingdom, 5.50 cents per dozen; new cases, fillers, mapes flats, excelsior pads, grading, etc., 3.50 cents per dozen; storage charges and interest, 2.00 cents per dozen; recandling, stamping, wiring cases, etc., 1.50 cents, or a total of 12.50 cents per dozen, leaving an approximate average net return of 13 to 13½ cents to the producer, providing sterling exchange is stabilized at \$4.80 or better.

British markets for imported poultry meats range from 14 to 28 cents on turkeys, 16 to 28 cents on chicken and 16 to 18 cents on fowl, 16 to 20 cents on ducks and geese. During recent years we have been able to establish the top prices for Canadian fresh turkeys and fresh frozen chicken. However, the large volume of business is done from those countries selling at lower values. While we are reasonably confident that the British market would absorb possibly a further five to ten million pounds of Canadian poultry meat, in order to secure this market, we would have to accept values more competitive with other imports. A conservative estimate would be an average of 25 cents, c.i.f., for A and B grade turkeys and 23 cents for A and B grade chicken.

It is generally conceded that the Manitoba Poultry Pool have developed the most practical, efficient and economical methods of assembling, grading and packing poultry meats. Their costs, including supplies and general overhead, are approximately three cents per pound. Transportation costs from areas of production to the United Kingdom are 4.75 cents per pound. Refrigeration assorting, wiring, etc., is .75 cents, which makes a total of 8.50 cents per pound, leaving approximately an average of 16 to 16½ cents for turkeys and 14 to 15 cents for chicken and 11 to 12 cents for ducks and geese, providing sterling exchange could be stabilized at \$4.80 or better.

The outlook does not tend to undue optimism regarding increased production. However, it does not necessarily follow that because eggs may have to be produced and sold during the period of heavy production at a net return of approximately 13 cents to the producer, that greater values should not be realized during the lighter production periods on our domestic markets. The period of lower values could definitely be limited to the period necessary to clear for export sufficient

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volume to assure that our domestic market would not be over supplied for the balance of the year. In order to carry out such a programme or national marketing policy, a marketing board would have to be empowered with the necessary authority to make same effective.

Regarding Poultry Meats: The prospective export values are not materially less than the average values realized on western Canadian markets during the rush of the marketing season. If the surpluses over domestic requirements are exported early in the marketing season, there appears no logical reason why better values should not be realized on our domestic market, once these surpluses have been cleared. In order to make this marketing programme effective, a marketing board would have to be empowered with the necessary authority.

There was a time when we believed that the poultry producers would and could organize their collective bargaining power so as to make effective, without government regulations, the programme or marketing policies above advocated. National and international fiscal policies over which they apparently have no control have, to a large measure, brought about a condition of economic distress which has shattered the general morale of many agricultural areas. The possibility of the Canadian produce trade accepting its responsibility to the industry and voluntarily carrying through constructive marketing policies, was a pleasant theory which received a considerable degree of support by many leading citizens and eminent Canadian marketing economists (of which we incidentally appear to have a surplus). Unfortunately, we have had apathy and indifference at a time when other agricultural areas of the world were taking definite action to solve their marketing problems. Now we are faced with the necessity of immediate action in order to evade economic chaos.

Summarizing, we believe the most constructive, practicable and efficient solution to our marketing problems in respect to poultry products is to adopt a national policy which embraces:

- Standardized breeding,
- Standardized hatching,
- Standardized feeding,
- Better housing,
- Compulsory grading regulations throughout the Dominion,
- Licensing and regulation of all packing operations,
- A national Marketing Board to merchandise our surplus production.

THE CHAIRMAN: Thank you, Mr. Landreth, for a very fine paper on one of the agricultural activities of the province of Manitoba and the West. Time is now available for questions or discussion.

MR. FARMER: I would like to ask a question with regard to this subject. Mr. Landreth has spoken on the advantage of the adoption of grading for poultry. Is it not true that within the grades there is a certain leeway in the matter of prices which has reacted against both the interests of producer and consumer? I will give you one instance to illustrate what I am getting at. In the middle of October a farmer brought in a load of live chickens, and sold them to one of the packing houses here. They were apparently small birds, weighing I would say, on the average, around three pounds. The price quoted to him, and I have the invoice in my possession, showed they were paying on that day from 12 to 13 cents per pound for large birds of six pounds, all the way down to eight and nine cents for birds of three pounds and under. But if you went to buy chicken in a store around that time you were charged 30 cents a pound, and it didn't matter whether they were small or large, the price was the same all the way through, and they were all graded as No. 1. The point I am making is that the consumer was paying just as much for a chicken that cost the packing house eight cents as a chicken that cost the packing house 13 cents. The spread was large enough at the top price, but on the price for the small chicken there was a terrific spread, and I suspect that both the producer

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and the consumer are being exploited on account of this difference in prices paid for weights.

MR. LANDRETH: One of the reasons that we very definitely recommend government regulations and standardizing of grades is just to eliminate the abuses which the last speaker has mentioned. There is no doubt there are many abuses in the poultry industry as it is being carried on today. Really there is no relationship whatever between the price paid the producer and the price paid by the ultimate consumer, and I do not suppose it is any more evident in this city than in any other city in Canada. Quite often you will find a spread between the price paid to the grower at certain seasons of the year and retail prices in our city stores, and the consumer will pay twice as much as what the consumer got for his product. We contend that under properly organized marketing those things could be definitely eliminated. We even go so far as to suggest that the consumer should be able to buy his product on grade, and if he cannot afford to buy the highest quality product, he may buy something that serves him in the cheaper grades at definitely less money. We do claim that there should be some control over the margin that is taken by the different elements that enter into the distribution of that product. We know from actual experience in our own business in this city that we have offered to the trade, the distributing trade here, chickens at 14 cents a pound, and we have seen them appearing on the counter at 26 cents a pound. The grower possibly got 12 cents a pound, and the consumer pays 26 cents. In our opinion those margins are ridiculous. We do not believe it is possible to correct that situation unless we have some definite form of control of the margin which can be charged as between the producer and the consumer, and that is why we recommend standardized grading and definite licensing of all produce dealers, so that they can be made to conform with some reasonable standard of merchandising.

THE CHAIRMAN: If there are no further questions, the time has arrived for the final item on the programme. It would be incongruous for me to suggest that I am going to introduce to you the speaker whose name appears in connection with the next item, so I say to Premier Bracken I am handing back the conference to him, being sure that I am expressing the unanimous view of the audience that all of you appreciate his very splendid effort in conceiving and organizing this conference, which with your support has had such a wonderful success. Premier Bräcken. (Applause.)

MR. BROCKINGTON: May I have the floor for two or three minutes for the performance of a task which I am happy to undertake. Ladies and gentlemen, I am sure none of us would wish for any remarks from anyone to detract from the attention to and the memory of the words which will shortly be spoken, but it has been made evident by a number of gentlemen in this audience who have spoken to me, that it would be lamentable if we were to part without a formal expression of a vote of more than formal thanks. It is my pleasure at this moment very briefly to move that vote of thanks, which I undertake with all the greater pleasure because there is to be associated with me a gentleman whose modesty forced him to occupy a secondary position in this motion, a position which I am sure he does not hold either in your respect or your regard. I refer to a man whose courtesy, whose sincerity, and whose fidelity to a great cause command the admiration of us all, Mr. Paul Bredt, of the Manitoba Pool. (Applause.)

While it would be quite outside of my province, or my power, to attempt or desire to sum up any of the discussion in this gathering, I do, however, wish to make one suggestion for the consideration of the Premier and the staff who have so ably assisted him, a suggestion which came to my mind in the discussion last night with some of the gifted economists who have so generously given of their talents to this conference. Frequent references are made in the press in connection with the subsidy to western agriculture of what is called "the loss to the Dominion treasury." I object to that phrase. We do not talk of the cost of social services, or dividends to debenture holders, as loss to the Dominion treasury. I think we should ask the Premier to obtain certain information to clarify the thought of the public in this country in connection with the use of that phrase, because it seems to me,

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and the economists agree with me, that it should be possible to estimate first of all what the probable amount of this assistance to the western farmer will be. It should be then possible to divide that amount into a number of headings, which I suggest, for their information, might be the following three:

1. What part of the amount of assistance given by the Dominion government to western agriculture will be used in payment of debt?
2. What amount will be used in the additional purchase of eastern manufactured goods?
3. What amount would otherwise have to be paid in relief or in other indirect forms?

While that has been touched upon at this gathering this calculation at least in terms of general percentages is within the power of economists, and I think it would be well in placing our case before the Dominion of Canada to have those facts established as closely as they can be. I make that suggestion with deference.

With reference to the vote of thanks which is more than formal, it has been my doubtful pleasure on a number of occasions to attend a number of conferences. Mr. Gladstone is reported to have said "A convention is a noun of multitude signifying many, but not much." This convention signifies both many and much. I think it is unique in my experience, in the first place, because of the complete absence of rancour and disunion, secondly, because of the seriousness which has inspired everyone who has been present, and thirdly, because the audience seemed to me to show a realization of the grave need of this troubled world; the spirit of science, that scientific spirit which seeks conclusions and does not jump at them; which patiently searches for facts; which attempts to found thought, policy, and action upon the vitality and cogency of those facts; which faces any fact however bitter or however stark. That seems to me the spirit that has been behind this gathering.

I would like to thank you personally, Mr. Premier, for your vision in calling us together, for the efficiency with which you made the arrangements, and for your courtesy to all in the Chair which you have occupied with patience and distinction.

I would like to thank those of your staff who have been associated with you, Mr. Davidson and the other assistants, and those gifted gentlemen from the governments and universities both East and West, who have made the scientific aspect of this convention so real, not only in our minds, but I hope in the minds of all Canada.

I would end with this thought: The ground is fertile, the seed is good, the time is opportune. I hope we can all join you some day not only in waiting for the harvest but also in working for it and welcoming it. I have great pleasure in proposing a vote of thanks to the Premier of this province. (Applause.)

MR. PAUL BREDT: Mr. Chairman, after the very generous remarks made by Mr. Brockington concerning myself I am more than ever reluctant to rise at this time, and it is only a sense of duty and the realization that we are indebted to you, sir, for the calling of this conference which influences me to second this vote of appreciation.

Speaking on behalf of Canadian Co-operative Wheat Producers, the largest farmers' organization in western Canada, I consider it an honour and a privilege to be associated with Mr. Brockington in seconding this expression of thanks. There is no need for me to repeat the things which have been so well said, but I wish to express the opinion that the conference from the standpoint of the West has been, due to your efforts, an unqualified success. There has always been unanimity of opinion amongst all people in the West, as to the absolute necessity of markets for our agricultural products, but there has not always been that same unanimity as to the importance of the price received for these products. Thus, a few years ago, the opinion was expressed editorially that "Price does not matter;

it is price multiplied by sales, and oceans of cheap wheat will get us a market in Europe."

After listening to the papers which have been read to this conference, and the various discussions, and after hearing the unanimous endorsement of the justice and the necessity of a fair and just price to the producer, I think we have taken a very definite step forward in the direction of general realization that it is not only markets, but markets at a just and fair price which the farmer needs. This has now been endorsed unanimously by all those who have taken part in this conference, and that is my reason for saying this conference from the standpoint of the West has been an unqualified success.

We who are privileged to live in Manitoba, have always known that we have a Premier who has the interest of agriculture at heart. In closing I do not think I can do better than to quote a short, tense sentence, which I got in a letter from a farmer friend of mine the other day, written after he had read the radio address which you, Mr. Premier, made some time ago, in which you announced this conference. This is what he said, and this is endorsed by all primary producers in the West, I am sure: "John Bracken is all right, his heart is in the right place for agriculture." (Applause.)

PREMIER BRACKEN: LADIES AND GENTLEMEN: I want to thank Mr. Brockington and Mr. Bredt for their more than generous expressions of appreciation of what has transpired here during the last three or four days. I want to say, however, that the thanks are not due to me any more than to a hundred others who have so generously co-operated with the government in initiating and carrying forward the plans for this conference. In any event I deeply appreciate the complimentary references made.

If I happened to be prominent in the plans it is but an accident, because it is a fact that I happened to find myself in a responsible position at a time when the nations of the world are making a radical change in their relations with one another, a change which spells misfortune to every large exporting country in the world if that change is not quickly reversed. If I happen to have been prominent in initiating this programme it is because for more than 30 years I have been travelling up and down the plains of western Canada and have seen them change from prairies to freshly broken, productive wheat fields, and back again in some cases to drifting soils, with crops affected first by grasshoppers, then by drought, then by rust, and now we find ourselves in a position where in attempting to feed the hungry nations of the world, the more we grow, the less we get for it. We find our problem changed from one of production, which was the problem for the first three decades of this century, to a wholly different one, an economic problem, a problem of distribution, one of justice to the tillers of the land between here and the Rocky Mountains.

I am not responsible for my name having been put down as the last item of this programme. That was done when I was away. Since it is there, I do not mind trying to summarize some of the fundamentals of the discussion of the last few days, and perhaps making a suggestion as to where we shall go from here. But before I do that I want to introduce two persons who have not appeared on our programme.

We have had wonderful co-operation from everybody. No one whom we have approached has refused to give the most generous co-operation. It was our intention this afternoon to have on this platform as chairman the Minister of Agriculture for the province of Alberta, but he was called away at the last moment. Before I proceed with my remarks I want to give the Hon. Mr. Mullen, Minister of Agriculture of Alberta, an opportunity to extend his greetings. It was my privilege last spring to visit the province of Alberta in connection with this and related problems, and on that trip I stopped at Edmonton and had a very long and interesting discussion with the Minister of Agriculture for that province. I found him a practical man, sincerely interested in the welfare of the people on the land in the

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province of Alberta. He tells me he does not want to make a speech, but I do want him to have the opportunity of bringing you a word of greeting from Alberta. The Hon. Mr. Mullen. (Applause.)

HON. D. B. MULLEN: MR. PREMIER, LADIES AND GENTLEMEN: First of all may I express my appreciation and tell you how I have enjoyed the last four days at this very important conference. May I at this time congratulate your good Premier who had the intestinal fortitude to go ahead and call this conference together, which represents all the different classes interested in agriculture. When you realize that agriculture is the most important industry that we have in western Canada, and when you have in mind that it is the top six inches of Mother Earth that is responsible for feeding the world, it is my estimation that this is one of the most important conferences in connection with the great agricultural industry in the West that has ever been called together, West of the Great Lakes. Coming from one of the great producing provinces of western Canada, that is, in wheat, and also the second greatest livestock producing province in the Dominion of Canada, and might I say, in passing, the very best advertised province in the whole of the Dominion (laughter), I want to assure this vast audience here tonight that any progressive move that is being taken in regard to the improvement of agriculture in western Canada will have the fullest co-operation from the province of Alberta. (Applause.)

I was sorry I was not able to take a few minutes in discussion this morning when you were dealing with questions in regard to the cattle industry. If, Mr. Premier, I may take a few minutes at this time, I would like to make a suggestion. I was very much interested in Mr. Shaw's paper. Ladies and gentlemen, I believe perhaps we are looking at the wrong end, might I say. We always look to producing the best, but what about the great quantity of inferior livestock and inferior grain we are producing in western Canada. Think of the 70 per cent of our inferior livestock that is not only going out of this western country unfinished, but we are asking our people in western Canada to consume. If I had my way I would take over the low classes of beef and I would make it impossible for that class to ever enter into our British meat trade. In my estimation if that is done, and if we feed and finish our livestock in western Canada, and in that way give our consumers a better quality of beef to consume, I think we will have gone a long way to solving our problem as far as our beef industry is concerned.

Mr. Premier, again I want to say this, that any progressive move you may take in Manitoba and Saskatchewan, or any province of the Dominion of Canada, for the improvement of agricultural industry as a whole, you can depend on the fullest co-operation from the province of Alberta. (Applause.)

PREMIER BRACKEN: Mr. Mullen has suggested to you that the province he comes from has been very well advertised. I suggest to you it has been very well advertised during the last three minutes as well. (Applause.)

Ladies and Gentlemen, you were kind enough to extend a very generous expression of thanks to me for my little part in this gathering. What has been done here has been appreciated, far beyond the boundaries of this city or this province. I have here a wire from the Canadian Broadcasting Corporation, signed by Gladstone Murray, reading as follows: "Would greatly appreciate your acceptance of invitation to speak over CBC Sunday night next, 10.45 to 11, on the work of your convention. Endeavouring to arrange simultaneous broadcast in the French language over French network." (Applause.) That is not a compliment to me, that is a compliment to the 20 or 30 or more speakers who have taken part in this gathering. I have wired accepting the invitation, and between now and Sunday we will try and figure out how we can reduce all that has happened here in the last four days into a 15 minute radio talk.

Before I add my brief concluding word there is one other thing I wish to do. You have been good enough to associate one man only with that vote of thanks. No one man deserves all the thanks because this convention has been a success, but there is one man who has not shown himself very much, a man whose work

during the last 15 months has been largely responsible for the groundwork on which this convention was built, a man who for nearly a year was chairman of our Economic Survey Board, a man who has been responsible for the detailed arrangement of this conference. I would like to ask Clive Davidson to come up here so you folks can see what he looks like. (Applause.)

MR. CLIVE DAVIDSON: MR. PREMIER AND FRIENDS: The arrangement of this conference has not been a difficult task in any sense of the word. Since the suggestion was first made, the matter of arranging the details of our programme was a happy experience. It was necessary to discuss not only the conference, but this whole western situation with a great number of people; and on every hand I was received with the greatest of courtesy. Real co-operation was extended not only in Manitoba, but in other provinces. In the face of a general realization of the extent of our problems in western Canada it was very easy to arrange a meeting of this kind.

There is perhaps just one thought which I might leave with this gathering. We have discussed our western problems from many angles. Some of the evidence submitted may have appeared rather pessimistic. An effort has been made to place the facts clearly before this conference. While our problem may be difficult in western Canada, we have an asset which will assist us in meeting the problems, with which we are faced. That asset is simply the qualities of heart and mind which we have in these Prairie provinces. Our human resources are great, and I feel that if we can approach our problems with the great resources which we have within our command we shall be successful. Thank you very much. (Applause.)

PREMIER BRACKEN: Mr. Davidson has suggested that a blue picture may have been painted, and perhaps a difficult problem presented to us. I simply want to say that the more difficult the problem is the more satisfaction we will have when we have solved it. Any problem can be solved if we can bring to it the best brains the nation has and the co-operation of the thinking people of the community, and we can get both of those if we compromise our differences and present a united front on the question.

Just one other observation before Mr. Mullen goes. Mr. Davidson was chairman of our Economic Survey Board, a board which has made a very exhaustive study of the economic resources of all our primary industries and many other social problems in this province, and it was largely as a result of that that the facts of the present situation were made so clear to us. I want to say to Mr. Mullen that five people in Manitoba, all closely associated with his political party in Alberta, were partly responsible for that Economic Survey coming into existence, and I want here to express my appreciation of the co-operation which the five Social Credit members of the Manitoba Legislature have extended the Manitoba government during the past two years. (Applause.)

CLOSING REMARKS

by

PREMIER BRACKEN

You are expecting me to say a word by way of concluding the four days' discussion at this conference. At the outset I wish to make a brief comment about the splendid spirit of the meetings. We did not set out to have a large attendance. We set out to have a representative gathering of a cross section of this nation. If there has been a large attendance, and an interested attendance, it is because the subject matter is very important, and because you were all intensely interested.

I want also to thank all those who co-operated with us in this enterprise, commercial organizations all the way from Ontario in the east to the Rocky Mountains, industrial organizations, producers' organizations, livestock, poultry, honey and

fishermen's organizations. I want to thank the two provincial governments to the west of us for most generous co-operation. Also the Dominion government, since three different departments of that government have sent us the best of their technical assistants.

Our purpose was to make this an economic conference, not a political conference, not a place to come and talk and forget about it, but an economic conference to get to real grips with our problems. Mr Davidson said the picture may have been painted in gloomy colours. I think very often during the last twenty years we have made the mistake of painting a rosy picture when a rosy picture was not the true one.

I want also to thank the three western Universities for the generous co-operation they have given in sending us some of their best men.

I also wish to tender our thanks to the United States Department of Agriculture. I saw Mr. Wallace, the Secretary of Agriculture, about a month ago, and he said he would let us have two of his best men. When I asked them for their expense accounts before they went away they said there would be no charge to the government of Manitoba for their coming. (Applause.)

And I want to thank the thirty odd speakers who have come here from nearly all parts of Canada. I also want to thank the local press, the Canadian Press and the press of all Canada.

I shall not keep you long, ladies and gentlemen, and yet I suppose the importance of this gathering justifies our taking a few minutes in trying to see if we can summarize, even though inadequately, what has been done.

I think this is perhaps the first time in the history of prairie agriculture when a representative group of citizens has had presented to it a true and full picture of the market situation, and the climatic and soil potentialities and limitations on this portion of the continent. The purpose of the gathering was to present such a picture, and if I gather the sense of the meeting I think you feel that you have had that picture presented in its true colours. The question now is, Where will we go from here?

When we asked a representative group of men from the chief economic zones of this portion of the Dominion to come here we did not plan to embarrass them by asking them to vote on anything. We desired to have the picture presented to you in order that you might study it and pass on what you got here to others in your own callings, in the expectation that when the whole situation is seen and understood the Canadian people will arrive at a wise solution of our problem. We therefore did not submit any resolutions of any kind for you to approve or disapprove. At the same time we think it would be a mistake if, after this picture has been presented, we go away from here and do nothing more. I gather that it is the sense of this meeting that the work which has been initiated here this week shall be carried on. (Loud applause.) If it is, it is our business to try to find the connecting link between the present and the plans of the future.

First of all let us try to summarize the fundamentals of the present economic situation insofar as the market for wheat is concerned. I think I can do that in a very few minutes. Has there been a shrinkage in world demand for wheat? I think the facts you have had here from unprejudiced students show that there has been a shrinkage within the last seven or eight years of 200 million bushels per year in the demand for wheat; a shrinkage of five per cent in the demand from Great Britain, 77 per cent from Italy and Germany, and 33 per cent from the five or six other European importing countries, a shrinkage in demand for wheat of 200 million bushels from whatever cause.

Is the supply of wheat being maintained, or is it up, or is it down? I think the undisputed facts presented here indicate that not only the acreage but the production throughout the world is about five per cent, or 15 million acres, or 200

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million bushels higher than consumption would require on the average. So that we find the demand down and the supply at least as great, or perhaps a little greater than before.

The result of that condition always spells one thing, low prices. Is the price down? You did not need to come to this conference to learn that. The prices today, Fort William prices, are around 60 cents, and the guaranteed price is, as you know, 80 cents.

This problem will not be solved by us alone in western Canada. We will need national assistance. If we are going to get that we will have to sell our case on its merits. We cannot force the hand of the Dominion government with only one quarter of the members of the House of Commons from western Canada. It is up to us to present our case so that it is unassailable, and then present it in the strongest way we can and with a united voice.

I think one of the very simple things we should do at first is to let eastern Canada know that western farmers are not getting 80 cents a bushel for their wheat out on their farms. Just in order to read it into record I would like to give you the average prices, out in the middle of the wheat fields, that prairie farmers are getting, even with this guarantee, in order that in other parts of Canada so much fault will not be found with the guarantee that has been given. This information is not unknown to most of you, but it is unknown to 99 per cent of the people in eastern Canada.

With wheat at 80 cents, Fort William, No. 1 hard in the wheat fields is 64 cents:

No. 1 Northern	63 cents
No. 2 Northern	60 "
No. 3 Northern	55 "
No. 4 Northern	52 "
No. 5 Northern	44 "
No. 6 Northern	37 "

In this particular province we do not grow all hard spring wheat, we grow considerable Durum wheat, the guaranteed price of which is ten cents below the 80 cents, or 70 cents, which leaves the price out on the wheat field to the farmer of:

No. 1 Amber Durum	54 cents
No. 2 Amber Durum	50 "
No. 3 Amber Durum	46 "
No. 4 Amber Durum	42 "

Those are the prices that the Dominion guarantee means to farmers in the middle of the wheat fields—not 80 cents a bushel. I think we will get a more sympathetic reception in our appeal to the Dominion government when eastern Canada knows that.

What would be the prices out in the wheat fields with wheat at 60 cents at Fort William, if there were no guarantee? You all know this, but I will give the prices:

No. 1 Hard	44 cents
No. 1 Northern	43 "
No. 2 Northern	37 "
No. 3 Northern	32 "
No. 4 Northern	24 "
No. 5 Northern	17 "

Coming to the Durum:

No. 1 Amber Durum	34 cents
No. 2 Amber Durum	30 "
No. 3 Amber Durum	26 "
No. 4 Amber Durum	22 "

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Most of you heard Professor Hope's paper and I am sure you all appreciate the masterly address he gave. He said the price of 80 cents Fort William would not enable the Saskatchewan farmers to pay their debts. If 80 cents will not enable Saskatchewan farmers to pay their debts I wonder how much they would pay if the price at Fort William were 60 cents.

In this connection it is important that the financial interests of this country should know what 60-cent wheat at Fort William would mean to them, and what the business interests of Manitoba and of Winnipeg would think of 60-cent wheat at Fort William, a price which means such low prices out on the farms. That is one reason why this conference was called, in order that not only should the farmers of western Canada know what this problem is, but particularly the implications of it as they react on business, finance and industry, throughout the whole of Canada.

The demand for wheat is down and the supply is up. The price is down. Is the price likely to continue low? I think after this conference you would say yes, if production remains where it is today, and if restricted markets continue.

Another question arises. Is the carry-over high? These men have told us that at the end of July next there will be 1,100 million bushels of a carry-over, that the normal carry-over is around 600 million bushels, and that the carry-over will therefore be about 500 million bushels above normal. The question then arises. Is that carry-over likely to remain high? That depends upon whether Europe is prepared to buy any more than it has been buying, or whether the producer nations are prepared to produce less. If Europe does not buy any more, and we keep on producing the same, the carry-over will remain the same. A catastrophe might reduce it, but a big crop might make it worse. If that is the situation and I think everyone here will agree that it is, do you, who have been attending this conference, favour the nation supporting the agricultural industry until it finds the best way out? I ask that question. (Applause.) Do you favour the nation supporting the agricultural industry until it finds the best way out of the situation? I am not suggesting that the present way is the best way. Some people in Canada do not think it is the best way. We have seen reports in eastern papers of public and other men expressing the view that this guarantee which will cost the taxpayers of Canada 40 million dollars, 50 million or 60 million dollars is unwise and cannot be continued. In this connection I can only say to you what I said a little while ago that western Canada does not dominate the affairs of the Canadian Parliament, and that we will be wise if we prepare the most meritorious case we can prepare, not one they can shoot holes through. We should present a considered programme, and present it with a united front, and then expect that reasonable proposals will be met in a reasonable way by the Dominion Parliament. That is all we ought to ask, and that much we ought to expect.

Another question arises. If the nation is to support the industry between here and the Rocky Mountains until we can get it on a sounder basis, how can the nation support it best? Professor Hope said this morning that the guarantee of a minimum price on wheat was not the best way. I think there are very few people who would say it is the best way, but I suggest to you that it is our business to get together and discuss what is the best way and try and agree on it, and expect the federal Parliament to meet our wishes with respect to it. If it is not a guarantee of a minimum price on one crop, or a guarantee of a return per acre, or perhaps a guarantee on more than one crop—I am not suggesting what it should be—it is our responsibility to set that out and make united representations upon it.

The second question is, what is the best way out of the situation? There have been many different views expressed here and elsewhere. I suggest to you that there is no one way out—it will have to be attacked from many angles. The way out is not going to be easy, it promises to be hard, and it promises to require the assistance and co-operation of every individual, every provincial government, and the national government, and probably the most sympathetic international treatment it can have.

It seems to me that there are four courses, any one or more of which we may take, or may be forced to take. The first one is in the direction of regaining the markets now lost. If we fail to regain those markets we should try to secure the bonusing of producers in some form until we can get a sounder programme of readjustment worked out. If we cannot regain our markets, and if we cannot get from the Dominion government continued assistance for a time, we are left with two alternatives, first, reducing production or export in an orderly way by co-operating with other major wheat exporting countries, or, secondly, by putting up a fight with those exporting countries for the limited market that is now available to us. May I touch very briefly on each one of those four possible avenues, some of which we may prefer to choose, and some of which we may be forced to use.

First—regaining markets. That is largely a question of tariffs. Some people have said here that is the chief thing needed. Some people say there is little or no hope in that direction. I am sure we all admit it will be difficult to regain a large portion of those European markets. Ladies and gentlemen, let me say, for one, that I do not subscribe to the idea we have got to give up and admit we have lost those markets for good. They are going to be hard to get, of course, but to the extent that we fail to get back those markets, to that extent is the Canadian nation going to be poorer, and to that extent we shall be poorer. Either the Canadian nation is going to bear the loss, or you farmers between here and the Rocky Mountains are going to bear it alone. We cannot get away from that logic.

As to the second point—bonusing producers in some form—as I said a moment ago, there is some argument that this is not the ideal way. I suggest it is our responsibility to try and help determine what is the best way, and that some plan should be set in motion here at this conference to get all the interests working together to define what is the best and most equitable way of assistance.

As to the third point, if we cannot regain the lost markets, and if it should be that the Canadian nation will not give us assistance in the meantime, what are the prospects of reducing production, or reducing export by international co-operation? Some people say it cannot be done; it was tried four or five years ago and failed. Yet some other people say that is the only way out. We do not ask you to say at this conference which is right.

As between a guaranteed minimum price and some effort to regulate production or export, it is probable both are deserving of support.

Incidentally, I may say to you that the International Advisory Committee, comprising 20 or more countries of the world, will be meeting and dealing with this very question on January 10th. That will give you some idea of the interest the world is taking in problems of this kind.

May I, in passing, mention one interesting point. This gathering is being held in the province of Manitoba. If the world exporting nations should decide that the best way of approaching this problem is by reducing production, or by reducing exports and so reducing production, how much is the province of Manitoba to reduce? If the cause of this difficulty is the overdevelopment of wheat farming, the little province of Manitoba is not responsible at all, because we grew as much wheat 25 years ago as we are growing today. The acreage has not varied between two and three quarters and three and one quarter millions in 25 years, and yet because wheat is a world commodity, and the world grows too much, and the price goes down, we have to suffer with the rest. If there has been any reason in your minds as to why the conference was called here I may say that we have in this province a city which is not a provincial city, but a city which has taken a large part in the development of, and is largely dependent upon the agricultural area between the Great Lakes and the Rocky Mountains. If agriculture has to start backing up, this city will have no choice but to face declining business and declining revenues.

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If we cannot regain the lost markets or their equivalent, and cannot get assistance from Ottawa while developing a sounder plan, and if we fail to get international co-operation in reducing acreage, if that should be considered a wise thing to attempt, what is left? It is left to us to put up the best fight we can for the limited market remaining, a market of 540,000,000 bushels for which the exporting nations are producing 760 million bushels. In that fight who will win? Will it be western Canada, the United States, Argentina or Australia?

A VOICE: Nobody.

Somebody says "nobody." Maybe it will be like a war—no one will win, all participants will be poorer, and some will go bankrupt.

Ladies and gentlemen, having stated the problem, where do we go from here? Having discussed the problem so thoroughly, shall we let the matter rest at this point?

I dislike to appear to take liberties in suggesting what should be done, and yet since you are not called here to propose remedies, someone must propose something if we are not going to let the situation remain unattended. I suggest to you that this conference might approve of the appointment of a continuing committee, a central committee, or a nominating committee on markets and agricultural readjustments—a committee which might give consideration to the appointment of sub-committees to deal further with the questions you have raised here.

The best way for the nation to support the industry while a carefully worked out programme is being determined is one thing such a committee might consider.

Another is how to bring about a greater expansion of trade, how to get more markets, and at the same time how to lower our costs, because in these two directions lie the solution of our problem—how to get more markets and how to lower our costs.

Another sub-committee might study the question of federal monetary policy as it affects agricultural prices. I pointed out to you once during this conference that between 1931 and 1936, because of the way that the monetary policy was administered in Canada, western Canada bore a net disadvantage of 47 million dollars per year. We should have this matter studied and the sanest proposal with regard to international exchange from our point of view presented to the nation when it is determining its policies on matters of this kind.

Another thing we might consider is the question of interprovincial trade in feed grains. I have here a letter from the president of the Canadian Manufacturers' Association, who, I believe, is a farmer as well as a manufacturer, Mr. W. D. Black. He points out that we have cheap coarse grains in western Canada which they need in Ontario, and that freight rates are high and storage facilities at the other end are not good; and that an organization something like this might give consideration to the furtherance of interprovincial trade in coarse grains, thus widening our markets by replacing feed materials imported from other places such as the Argentine. This is one of the things that might be followed up.

Another is a more aggressive merchandising policy. You are all aware that the Dominion government is doing all it can in the way of merchandising many of our products. I wonder if we could not encourage them to be a little more aggressive in the merchandising of our high quality Canadian wheat.

Another thing—a greater use in industry of agricultural products. If we have a surplus of them and that surplus is driving us out of business and driving many into bankruptcy, it may be that we could find some other uses for some of these products. Recently you heard of the conference in eastern Canada initiated by the Canadian Chamber of Commerce at which many of the outstanding corporations of eastern Canada were represented, trying to find other uses for surplus agricultural products. It is a plan that will not bring us immediate relief but in the long run is likely to be of considerable help.

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Another would be a comprehensive and continuous study of the western debt structure. You heard Professor Britnell and Professor Hope tell you that the farmers of Saskatchewan owe 546 million dollars. I may tell you that the governments and the municipalities of the three Prairie provinces owe 700 million dollars. I wonder how much of those debts will be paid if 60-cent wheat at Fort William is to continue. I think that is a situation which should be looked at again, not in the way of encouraging people to get away from obligations they can meet, but from the point of view of paying everything we can pay under the conditions that exist, and expecting the creditors not to ask for more.

Then finally, if we have to fight for the necessary share of this smaller market of 540 million bushels, I suggest the best way to arm ourselves, or one of the best ways, is by giving encouragement to a Western Problems Research Council, which would correlate all of the scientific studies now going on in western Canada by our Universities, Agricultural Colleges, and Experimental Stations, strengthening those activities which need strengthening, and adding to them such new lines of investigation as are necessary.

I think perhaps I should take the time to read to you a letter from the president of the University of Saskatchewan along these lines. We have between here and the Rocky Mountains three Universities, all being starved for funds, and all doing good work, but none in a position to spend large amounts on investigation and research, and yet in this area we have the largest and most difficult group of economic problems this Canadian nation is likely to face in the near future.

May I read a few paragraphs from the letter from the president of the University of Saskatchewan:

"You are to hold your conference in the beginning of December, and our own government here is making tentative steps towards setting up something in the nature of an enquiry for this province. I feel rather strongly that some attempt ought to be made to get the three Prairie provinces to get together. Do you think it might be desirable to set up something in the nature of a western branch of the National Research Council? I ventilated this idea with General McNaughton last week and he was not opposed. I am firmly persuaded that the Universities in this matter have a very grave responsibility and I should like, on behalf of this University, so far as I have any say in the matter, to pledge our staff here to as full a share as possible in the setting up of any such joint enquiry."

We have had another suggestion—the establishment of a Wheat Institute. Ladies and gentlemen, I suggest that as we approach this major problem we might very well ask the national government to set aside each year for a long period a considerable sum of money aimed to correlate the research activities of all the different organizations between here and the Rocky Mountains, to strengthen those needing strengthening, and to add new lines where there is need for more work.

I have taken the liberty of trying to put in words the sense of this gathering after the discussions of the last few days. Have I said anything that you do not all agree to in the way of suggestions as to how we might approach the future? A general central committee to give consideration to the question of markets and agricultural readjustments—a committee to nominate other committees to see that this work is carried on. That is rather a large order to ask you to say yes or no to. I wonder if in general substance it meets with your approval? (Loud applause.)

That being the case, Ladies and Gentlemen, I am prepared to take the responsibility of asking from each Prairie province some representative people, perhaps one from each of the Departments of Agriculture, and a couple from other representative interests in each province, to sit down together and figure out how we might proceed from here in some of these directions. If that meets with your approval I am prepared to try to do it. I would suggest such a committee be given power to add to its numbers in order that further study may be given these questions. (Applause.)

I have taken too much of your time. Let me say in closing that I have been impressed by the spirit of this meeting more than at any time in the 32 years I have been in public life—half of that time in my present position. During the last three or four days I have been more impressed with the possibilities of what may be accomplished by working together than I have ever been during all of that past time. Let us admit we are facing difficult problems, but let us not be downhearted over that. The Prairies are going to be here with their rich soils; most of us are going to be here; we may have a little harder time, but that should form a challenge rather than discouragement. When I was a boy on the farm in eastern Ontario, where I spent half of my life, we did not plough with tractors, we ploughed with a two-horse walking plough; where we tapped the sugar bush in the spring, and perhaps got stuck pulling the sap barrels over the unfrozen creek, I always observed that when we got stuck, and the horses started pulling one at a time we remained stuck, but when we got the horses pulling together we could get ourselves out of an awful hole. I suggest that if we in western Canada can sit down together—all the interests affected—and study out these questions, and bring to bear upon them the best brains this part of the world has, compromise our differences and speak with a united voice, that we too can pull ourselves out of an awful hole. You have given your co-operation in the last four days in a better way than I have even seen it before. You did not all think alike before you came. Many of you are from the financial world, many from the agricultural world, the business world or the professional world, yet you recognized that here is a problem that challenges the Canadian people. If we can face it with united effort I have no doubt but that rational progress can be made toward solving it.

I again thank you all for your attendance and co-operation. May I express the hope that those who represent different views and different organizations may have gathered something worth while from the conference. I trust that you will always be prepared to sit down together to try and find a way in which we can work out our common problems in the best interests of the country at large. In this particular matter we must do our part to help ourselves, and we must expect fair treatment of the problem at Ottawa when questions relating to the extension of markets, and supporting the industry while better ways are being sought to meet the problem of the industry in the future, arise. I suggest if we can work together as we have done here we need not have any undue concern for the future. Thank you very much. (Loud applause.)

RADIO ADDRESS

by

HONOURABLE JOHN BRACKEN

December 18, 1938, 9.45 p.m., C.S.T.

Radio Friends,

I have been asked by the Canadian Broadcasting Corporation to give to the people of Canada a brief report of the Winnipeg conference on markets for farm products. This I am happy to do, because the present trend of agricultural prices is so unfavourable that unless a change can be brought about, very serious consequences will accrue to the whole Canadian economy, and more particularly to western Canada.

As most of those within hearing of my voice will know, the price of wheat in Canada has dropped in recent months to less than half of what it was a year ago. As a result this year's Canadian crop, which was more than twice as large as that of last year, would bring on the open market some 30 million dollars less than that

of a year ago. The economic consequences of such a disastrous fall in prices was early recognized by the Dominion government. It therefore guaranteed a minimum price of 80 cents per bushel for wheat delivered at the lake port of Fort William. This meant that after freight and other charges are deducted, the price actually received by the western farmer for average grades is about 55 cents per bushel.

The consequences upon the West, and upon all Canada, of any continuation of such low prices, was considered to be very serious. For that reason a conference of all the national interests affected was called in an effort to throw more light on the problem. It was called to face with courage and intelligence the causes which brought about this condition, and the realities with which these prices confront the Canadian people, particularly the 2½ million Canadians who happen to live in the Prairie provinces. It was called to ascertain from informed, unprejudiced and non-partisan sources, the basic underlying facts relating to a problem which faces western agriculture directly and through it adversely affects the whole economic life of Canada.

The constant, unwearying attendance at the conference of well over 200 representatives of organized agriculture, industry, business and finance throughout the Dominion demonstrated that the gravity of the situation had been fully realized. Very full statements on every phase of the question were presented by the most outstanding authorities on the continent, and answers to certain basic questions were sought and obtained from those in a position to speak with authority. For example, it was shown that western Canada produces more than three times the needs of all Canada for wheat, and that consequently markets for more than two-thirds, or some 250 million bushels per year, must be obtained in other countries.

Then the question was asked, "Has there been a shrinkage in the world demand for wheat?" The answer was, "Yes." Within the last seven or eight years there was shown to be a shrinkage of about 200 million bushels per year in the demand from importing countries. This was considered to be the chief basic cause of the present problem.

Another question was, "Is the annual production of wheat in the world being maintained?" The answer was, "Yes." In 1938 the crop was the largest ever known in the history of the world. With the world import demand down, and the world export supply up, a third question scarcely needed an answer. That question was, "Has the price of wheat declined in Canada?" The answer was of course, "Yes." The average price a year ago at Fort William was \$1.31—today it is about 60 cents on the open market. The guaranteed price of 80 cents means about 55 cents per bushel to the grower for average grades. If farmers in the Prairie provinces were receiving the open market price instead of the guaranteed price, they would be getting but little more than 40 cents a bushel. It seemed a sad commentary on international trade relations when we were told that while these distressed prices obtained in western Canada, the prices being paid in England, France, Germany, and Italy ranged between \$1.30 and \$2.50 per bushel for inferior wheat of their own production.

It was then asked, "Is this low price in the West likely to continue?" The analysis of demand and supply as presented to the conference indicated that the demand continues to be down; that unless something is done to lessen production the supply is likely to remain high; that a large increase in carry-over at the end of the year is probable, and that consequently low prices are again in prospect. We were told that at the end of July next, there would be 1,100 million bushels of a world carry-over of wheat, whereas the normal carry-over is around 600 million bushels. Such an increase in surplus stocks inevitably spells low prices.

It was the view of the conference that the situation which I have just described represented the result of broad international trends; trends of interference with world trade; trends which were bearing heavily and unfavourably upon the wheat

industry in Canada. It was the unanimous view also that the Prairie provinces alone could not withstand the effects of this impact; it was felt that the nation must continue to deal with this extraordinary situation, with measures fitted to the urgency of the case at least until such time as the international trade picture has changed, or until such time as other adjustments can be made by which the wheat industry of Canada can be put on a better basis.

Still other questions followed. One was, "Can we solve the problem by international agreement to reduce wheat acreage or wheat exports?" This method of reducing production or export was tried under the International Wheat Agreement of 1933, and it failed. Some say it may yet be made to work, but others are strongly of the opposite view.

Another question was, "If the price is low can we reduce our costs to offset it?" It was pointed out that as compared with Australia and Argentina our competitors, the Prairie provinces find themselves in a high cost producing area. The costs are high here, not because of any disadvantages in soil or climate, but because of geographical position and unfavourable tariff policies.

Still another question was, "Can we bring about a reduction of the wheat acreage of western Canada?" It was agreed that some shifts in land-use could be made, but it was made clear, also, that fundamentally the Prairie part of the region must remain a grain growing area, and that other farm enterprises must fit themselves into that general type of production. In this connection the conference was warned that any important swing in western Canada towards the production of livestock and dairy products would have very unfavourable repercussions upon agriculture in other parts of Canada. It was shown that if the wheat surplus problem were to be solved by shifting to other types of farming, that it would but transfer the problem to other agricultural products and to agriculture in other parts of Canada. In this connection it is interesting here to note that the Canadian Chamber of Agriculture, just last night, issued a call for a similar conference in Ontario on the same subject.

While the Winnipeg conference was primarily concerned with securing a complete statement of the facts which lie behind these distressed conditions with respect to wheat and other grains, there was a unanimous desire to approach the whole problem of markets in a constructive way. While it was clearly understood that the problem of outside markets was a problem for the national government, it was fully realized that there were many matters pertaining to western agriculture which could only be satisfactorily dealt with by local effort. With this fact in mind the conference considered carefully the question of the adaptability of different western agricultural zones to various other types of farming, and it discussed thoroughly the question of the possibility of new avenues of production replacing wheat.

While it is, of course, quite impossible to give anything like an adequate picture of a four-day conference in the few moments at my disposal, I think I should mention that one conclusion stood out in clear relief. It was that while some policies are of vastly greater importance than others, there is no single road to a satisfactory solution—the solution must be found in a combination of approaches and the generous co-operation of all the interests and governments concerned. At the same time it was indicated that there should be no delay in making a well organized attack upon the basic causes of the problem.

At the conclusion of the conference it was agreed that a representative committee on "Markets and Agricultural Readjustment" should be named to carry on from the point where the conference left off.

Some of the matters arising out of the conference that will come under the survey of the committee might be mentioned. The first is the necessity of more

aggressive action in solving the basic problems of this particular region, viz., export markets and reduced costs of production. It was felt that there could be no desire, in any part of Canada, to see any region in this country forced into becoming a permanently distressed area. It was felt that the trade policies of the Dominion should, therefore, be further developed along the lines of regaining lost markets, and of finding new markets, and of lessening the cost of production. Likewise it was felt that Canadian monetary policy in the future should take proper cognizance of the importance of maintaining a sounder relationship between debtor and creditor classes, and between the income of farmers in any part of Canada, who sell their products at the low prices of world export markets, and other classes in the community. In the recent depression years the monetary policy followed in Canada failed to correct the maladjustment between farm income and the income of other economic groups to an extent that was possible, and which would, in our opinion, have been in the general public interest.

It was also clearly understood and accepted that in facing the problem the Prairie provinces are not without a major responsibility. It was felt that we must give consideration to a greater diversity in our agricultural production; that we must energetically pursue research work in connection with the many related problems, and that we must vigorously press for new uses for the products of the soil. In all these respects it was an inspiration to observe that there was no desire to shift responsibilities elsewhere that properly belonged to local jurisdiction. There was seldom witnessed a finer spirit of co-operation than was exhibited at the conference. It impressed me more than at any similar gathering in the more than 30 years I have been in western Canada. While there were many conflicting interests represented, never in my experience was there such unanimity of opinion as to the necessity of facing up to the challenge of the Canadian farm problem. The delegates realized that western Canada particularly was facing an extremely difficult position. But they realized more than that; they realized that depressed conditions in the Prairies will not be without serious economic consequences to other parts of Canada, and they realized that if we shift to other types of agriculture the welfare of large numbers of farmers elsewhere in Canada will be adversely affected. Throughout the conference there was a unanimous desire not only that the problems of western agriculture should be dealt with, but that they should be dealt with in such a way as to promote the welfare of Canada as a whole, and in a manner that would promote the utmost of national unity.

I need scarcely add that the people of the Prairie provinces are facing these new perplexities with very great courage. They are determined, as in the past, to do whatever lies within their power to cope with the new trials which restrictions in world trade, or increased world production have brought upon them. They desire only that the situation be considered on its merits. They ask only that it be worked out in a way that will be in the best interests of the nation of which they form a part. They do not ask or expect any more than that. They are prepared to make their sacrifices. But they feel the nation ought, in equity, to adjust its policies to help regain its lost markets. In this respect I feel sure all good Canadians will hope for success, and hope also for a restoration of the greatest possible measure of international goodwill.

I thank you.

WESTERN COMMITTEE ON MARKETS AND AGRICULTURAL READJUSTMENT

On Saturday, January 21, 1939, Premier John Bracken, pursuant to the expressed desire of the conference, named the following committee on Markets and Agricultural Readjustment:

- J. H. WESSON, President, Canadian Chamber of Agriculture and President, Saskatchewan Co-operative Wheat Producers Ltd., Regina, Sask.
- J. S. THOMSON, President, University of Saskatchewan, Saskatoon, Sask.
- GEO. BICKERTON, President, United Farmers of Canada, Saskatchewan Section, Saskatoon, Sask.
- HON. J. G. TAGGART, Minister of Agriculture, Province of Saskatchewan, Regina, Sask.
- A. D. CAVERS, President, Saskatoon Board of Trade, Saskatoon, Sask.
- A. J. HOSIE, President, Regina Board of Trade, Regina, Sask.
- HON. D. B. MULLEN, Minister of Agriculture, Province of Alberta, Edmonton, Alta.
- A. CRAIG PIERCE, President, Calgary Board of Trade, Calgary, Alta.
- LEW HUTCHINSON, Chairman, Alberta Wheat Pool, Calgary, Alta.
- J. K. SUTHERLAND, Executive Officer, United Farmers of Alberta, Hanna, Alta.
- PAUL FARNALLS, President, Alberta Municipal Association, Halkirk, Alta.
- ED. H. AYLING, President, Edmonton Chamber of Commerce, Edmonton, Alta.
- P. F. BREDT, President, Canadian Co-operative Wheat Producers, Limited, and President, Manitoba Pool Elevators, Limited, Kemnay, Man.
- L. W. BROCKINGTON, K.C., Counsel, Northwest Grain Dealers Association, Winnipeg, Man.
- D. G. MCKENZIE, Vice-President, United Grain Growers Limited, Brandon, Man.
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